

# ANNUAL ADMINISTRATION REPORT

2016-17



**KERALA STATE ELECTRICITY BOARD LIMITED**

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## PREFACE

The ensuing pages contain the authenticated report on the function of the Kerala State Electricity Board Ltd., the only state owned integral utility in power sector of Kerala. It may only be the fifth report of KSEBL as a company, but if the total history of the integral power utility of the state is taken into account this volume ranks the 61<sup>st</sup> in the series.

The year 2016-17 had been remarkable for KSEBL in more than one way, the most noteworthy being the Total Electrification of the state. Obviously KSEBL had the stellar role in the success of the 'Total Electrification Programme' announced by the State, which brought home the unique distinction of being the first state in the country to have electrified all its households. Another major development in the power sector was the signing of MoU for UDAY (Ujwal Discom Assurance Yojana) scheme, with Ministry of Power for UDAY for improving the operational efficiency in distribution system. This scheme encourages us to take a comprehensive approach on our distribution business especially in reducing the system losses and improving efficiency in every operational area.

This reporting period saw a reduction in T&D losses from 14.37% to 13.93%. This gain is despite the addition of 4,62,482 numbers of new consumers to the system, for which 5,358 km of LT lines had to be drawn and 2,271 Distribution Transformers were installed. Against which the addition of 1846 km of 11kV lines had helped in checking the HT:LT ratio. In the energy efficiency front distribution of LED bulbs to domestic consumers under 'Domestic Efficient Lighting Programme' reached 1 Crore mark.

The reporting period was promising in the transmission sector also. 'Transgrid 2.0' - the long term transmission plan aimed at revamping the transmission infrastructure as never before - was able to obtain the assent of the Government for funding. In a scenario where the energy import dependency of the state is on the increase, Transgrid 2.0 has immense relevance. The resumption of the work on Edamon-Kochi 400KV Line being executed by PGCIL is after a gap of 19 Months is another highlight in transmission sector for the year. Commissioning of three 110 kV substations, seven 33 kV substations, addition of 143.43 Ckt.km of lines of and above 33KV, and addition of 280.5 MVA transformation capacity is the summary of achievements in the transmission side.

In the Generation side, 63 MW was added to the grid which includes other than self generation by KSEBL contributions from IPPs, Prosumers and the 'Solar Park' at Kasargode. It may be noted that all of these newly added capacity came exclusively from renewable sources. Consumers-owned-solar power plants connected to grid at HT and LT levels during this period

totals to 6.19 MW. 36MW from the 'Solar Park' was added to the grid by the end of the financial year.

The true strength behind any successful organisation is its human resources. While the achievements as in this report may be rightfully claimed by the working strength of 30300 plus personnel in KSEBL, this report is also an indicator on the unfinished tasks before in meeting fully the consumer expectations and preparing the organisation to meet the business challenges.

Thiruvananthapuram

Date: 04.11.2017

**Dr.K. Ellangovan, IAS**  
**Chairman&Managing Director,**  
**KSEBL**

Annual Administration is the most authenticated report on the functions and achievements of the organization for the year under report. As per the order of Government of Kerala numbered G.O(P)No.207/2014/GAD dated Thiruvananthapuram 24.07.2014 each government department and public sector undertakings should publish the Annual Administration Report without fail.

Ensuing pages contain precise but relevant account of the functions and achievements of various wings of KSEBL for the financial year 2016-17.

## 1. MANAGEMENT

### 1.1 BOARD OF DIRECTORS OF KSEB LIMITED FROM 1.04.2016 TO 31.03.2017

Board of Directors	Name	Term
Chairman & Managing Director	Sri.M. Sivasankar, IAS	Till 01-6-2016
	Sri.Paul Antony, IAS	From 02-6-2016
	Dr.K.Ellangovan, IAS	From 24-10-2016
Director (Finance)	Sri.N.Sivasankara Pillai, IA&AS	From 10.8.2015
Director (Distribution & Safety)	Smt.B.Nina	From 01.6.2015 to 31.5.2016
Director (Distribution, Safety & Generation Electrical)	Sri.Venugopal .N	From 21.6.2016
Director (Transmission & System Operation)	Smt.P.Vijayakumari	From 01.6.2015
Director (Generation & HRM)	Sri.C.V.Nandan	From 01.6.2015 to 21.6.2016
Director (Generation –Civil & HRM)	Sri.Rajeev S	From 21.6.2016
Director( Corporate Planning & SCM)	Dr.O.Asokan	From 01.6.2015 to 31.5.2017
Director (Ex Officio)	Dr. K.M. Abraham ,Addl. Chief Secretary (Finance), GoK	From 01.4.2015
Director (Ex Officio)	M. Sivasankar, IAS, Secretary (Power), GoK	From 01.4.2015 to 01.06.16

	Sri..Paul Antony, IAS	From 02.6.2016
Director (Non Official)	Adv. B. Babu Prasad	From 1.4.2015 to 01.07.2016
	Dr.V.Sivadasan	From 02.7.2016

## 1.2 .STRATEGIC BUSINESS UNITS

In consistence with the State Government policy, the utility is not unbundled and is corporatized as a single company, handling all the three functions of Generation, Transmission and Distribution. There are three Strategic Business Units (SBU) within the company namely, Generation, Transmission, and Distribution, which are headed by the Directors concerned.

### 1.2.1 GENERATION SBU

1.2.1.1. Director(Generation Electrical) and the Director (Generation Civil & HRM) head the Generation SBU who are assisted in management by the following Chief Engineers:

- |   |   |                                   |
|---|---|-----------------------------------|
| <ul style="list-style-type: none"> <li>• Chief Engineer(Generation)</li> <li>• Chief Engineer(PED)</li> </ul>   | } | Director(Generation Electrical)   |
| <ul style="list-style-type: none"> <li>• Chief Engineer (Civil Construction - North)</li> <li>• Chief Engineer (Civil Construction - South)</li> <li>• Chief Engineer (Civil - Investigation &amp; Planning)</li> <li>• Chief Engineer (Civil - Dam Safety &amp; DRIP)</li> </ul> | } | Director (Generation Civil & HRM) |

1.2.1.2.The Generation SBU operates and maintains 35 hydroelectric generating stations, 2 thermal power plants, and the wind farm at Kanjikode. Renovation, modernization and up-rating of the old hydroelectric projects which have surpassed their useful life are also being carried out by this wing. Director (Generation Electrical) is assisted by two Chief Engineers Chief Engineer(Generation) & Chief Engineer(PED) for this.

Investigation, planning and design of all hydroelectric projects, land acquisition matters connected with various hydel projects, works connected with the environmental and forest clearance aspects of generation schemes, safety and maintenance of dams and connected structures, construction works of all hydroelectric and thermal projects come under the Generation SBU. Other activities include construction and maintenance of various office buildings, fabrication of line materials for distribution, yard structures for substations and accessories for hydraulic structures. The Director (Generation Civil & HRM) is assisted by the four civil Chief Engineers for this.

### 1.2.2 TRANSMISSION SBU

1.2.2.1 Director (Transmission & System Operation) heads the Transmission SBU. There are three Chief Engineers and two Deputy Chief engineers ( with full powers of Chief Engineers)

having head quarters at Kalamassery and Shornur are reporting to the Director, as detailed below

- Chief Engineer (Transmission - North)
- Chief Engineer (Transmission - South)
- Chief Engineer (Transmission - System Operation)
- Deputy Chief Engineer(Electrical) \_ Transgrid (South)
- Deputy Chief Engineer(Electrical) \_ Transgrid (North)

North zone is headed by Chief Engineer (Transmission - North) and having its headquarters at Kozhikode. This Zone is divided into 5 Transmission Circles, 15 Divisions, 56 subdivisions.

South zone has its head quarters at Thiruvananthapuram and has 6 Transmission Circles, 14 Divisions, 81Subdivisions. It is headed by Chief Engineer (Transmission - South)

System Operation is headed by Chief Engineer (Transmission - System Operation) with his headquarters at Kalamassery and has 3 System Operation Circles, 6 Divisions, 37 Subdivisions and 17 Sections.

On 16.03.2016, Board accorded sanction for the implementation of the Transgrid 2.0 project specifically aimed for strengthening the transmission network within the state to meet the increasing power demand, ensure supply reliability as per standards and to have evacuation system in line with the increased import capability. Vide B.O dtd 29.7.2016, it was decided to reconstitute the Southern Region Transmission Development Team as Transgid(South) headed by a Deputy Chief Engineer(Electrical) with Full Powers of Chief Engineer reporting to the Director(Transmission&System Opertaion) with headquarters at Kalamassery for developing transmission system in Southern Kerala. Similary Transgrid(North) was formed which is headed by a Deputy Chief Engineer with Full Powers of Chief Engineer having its head quarters at Shornur and reporting to Director(Transmission &System Opertaion).

1.2.2.2 Transmission SBU manages the construction, operation and maintenance of EHT substations and transmission lines and the supply of power to EHT consumers. Transmission SBU is responsible for the implementation of transmission loss reduction programs and coordinating the activities for system development. Transmission SBU has absolute control over all load dispatch activities, with full responsibility for real time management and matters pertaining to protection system and communication system. Scheduling of generation, scheduling of annual maintenance, import of power from independent power producers and central generating stations and export of power are managed by this SBU. Other important activities include monitoring of daily system statistics, implementing policy matters related to merit-order dispatching, communication planning, networking of computers and co-ordination of activities under the system operation circles.

### **1.2.3. DISTRIBUTION SBU**

1.2.3.1. Director ( Distribution & IT) heads the Distribution SBU. The Distribution Licensing area of KSEB are divided in to four regions namely Thiruvananthapuram, Ernakulam, Kozhikkode and Kannur region. Vide B.O dated 14-10-2016, the names of the Distribution

Regional offices -Thiruvananthapuram, Ernakulam and Kozhikode were renamed to South, Central and North which were the names prevailing before the formation of the Kannur region in 2015-16. Also vide the same order the Distribution region of Kannur was renamed as North Malabar. Further Electrical Circle, Vatakara was attached to Distribution-North separating it from Distribution- North Malabar. Names of the offices of the 4 regional Chief Engineers after the changes are given below.

- Chief Engineer,Distribution (South)
- Chief Engineer,Distribution (Central)
- Chief Engineer,Distribution (North)
- Chief Engineer,Distribution (North Malabar)

South Region with its headquarters at Thiruvananthapuram has 7 Electrical Circles, 20 Divisions. 63 Subdivisions and 217 Electrical Sections. Transformer Meter Repair(TMR) Divisions at Thirumala & Pallom are also attached to southern region.

Central Region with its headquarters at Ernakulum has 7 Electrical Circles, 24 Divisions, 69 Subdivisions and 236 Electrical Sections. TMR Division coming under Central region is the TMR Division at Angamaly.

North Region with its headquarters at Kozhikode has 7 Electrical Circles,19 Divisions,52 Subdivisions, 217 Electrical Sections. TMR Division at Shoranur comes under North region.

The North Malabar Region is headed by the Chief Engineer who is having headquarters at Kannur. This region has 4 Electrical Circles, 8 Divisions,27 Electrical Sub divisions,108 Electrical sections. TMR Division, Kannur is attached to North Malabar region.

1.2.3.2 Distribution SBU manages distribution of electricity business in the State, other than in the areas licensed to other Licensees. The activities of the SBU include construction, operation and maintenance of distribution network upto a voltage level of 11KV. Implementation of Central sector schemes such as RAPDRP(Part B), DDUGJY, IPDS, state sector projects funded externally, like MP LAD/MLA LAD/ Kerala Development Schemes are undertaken by this Distribution SBU.

### **1.3 CORPORATE OFFICE**

1.3.1. Corporate office under Chairman & Managing Director deals with the corporate affairs of KSEBL. Financial management, Corporate planning, Legal affairs, Human resources management, Tariff& Regulatory affairs, Commercial matters, Audit, are some of the key functions carried out by the Corporate office.

1.3.2.Heads of Departments of the Corporate office functioning under the direct supervision of the Chairman & Managing Director are as follows:

- Legal Adviser & Disciplinary Enquiry Officer
- Chief Vigilance Officer
- Secretary (Administration)



- Chief Public relations officer
- Chief Personnel officer

1.3.3. Director (Finance) mainly controls the financial management, internal audit, tariff and commercial aspects and also the functions of the Chief Engineer in charge of Renewable energy projects is assisted by the following Heads of Departments:

- Chief Engineer (Commercial & Tariff)
- Financial Advisor
- Chief Internal Auditor
- Special Officer (Revenue).
- Chief Engineer(Renewable Energy & Energy Savings) [ From 12.08.2016 onward vide order B.O (CMD).No. 2400/2016(Estt.III/25/2015)]

1.3.4. Director (Corporate Planning &SCM)

Supply Chain Management, and Corporate planning are the two functional wings headed by Director (Corporate Planning &SCM). Chief Engineer (SCM) and Executive Engineer (Planning) reports directly to Director(Corporate Planning&SCM).

1.3.5. Secretary (Administration) is the authorised representative of KSEBL in the matters of general administration and legal affairs. Head of offices who reports to the Secretary are the following -

- Regional Personnel Officer
- Chief Public Relations Officer
- Resident Engineer, New Delhi

1.3.6 Assistant Company Secretary who also reports to Secretary (Administration) holds full additional charge of Company Secretary of Kerala State Electricity Board Limited. Assistant Company Secretary has the functional responsibilities and statutory duties as specified in the Indian Companies Act 2013.

## **1.4 ORGANISATION CHART**

Organisation chart of Kerala State Electricity Board Ltd is shown in Annexure.

## **2. MAIN FUNCTIONS OF VARIOUS WINGS**

### **2.1 RENEWABLE ENERGY & ENERGY SAVINGS**

Renewable Energy & Energy Savings is one of the functional area of the Chief Engineer(Renewable Energy &Energy Savings). Energy savings co-ordination team (ESCOT) constituted for the effective implementation of energy conservation activities, report to CE(REES). 'The Innovation Group' is responsible for implementation of project concepts with innovative content. They function in this matter, in co-ordination with Power Department of Kerala and the 'Start-up Village' in Kochi.

Identifying viable renewable energy projects, preparation of DPR for submission to Central and State Governments, arranging financing, project implementation etc come within the scope of the CE (RE&ES). Scope also include design and implementation of Distributed Decentralized Generation projects, Micro Grids, Smart Grid, identifying innovative ideas in the power sector worth implementation, Identifying innovators from Start up village and co ordinate with them, ESCOT model implementation, Supply side Management and Demand side management of Energy, Energy Auditing, and Implementation of DELP.

### **2.2 CENTRALLY AIDED PROJECTS &SAFETY**

This office is constituted to provide the attention required on the Centrally Aided Projects such as RAPDRP, IPDS, DDUGJY (except the IT portion) and any other such projects announced by the Ministry of Power, Govt. of India, from time to time. Coroparate project management activities such as Obtaining sanction for DPR, following up through the implementation stages, monitoring progress, co-ordination with the nodal agencies appointed by Gol, facilitating for the timely funding requirement, and all coordinating efforts till the closure of scheme are being carried out from the Centrally Aided Projects & Safety( CAPS) wing.

Other functional area of this office is Safety. The mission of the Safety wing is to maintain a persistent and systematic safety culture in the organization to reduce the accidents to zero level. Safety wing has its jurisdiction all over Kerala and across Generation, Transmission and Distribution Sectors. The safety officers conduct periodic inspections at various offices and ascertain safety preparedness and suggest improvements.

The major functions of Safety wing are to monitor and regulate the day-to-day affairs of Safety related matters of the organization, report to Board and other statutory bodies, issue directives on safety procedures to field offices, Consolidation of Monthly Accidents Reports and submit to the Board of Directors, analyse the detailed accident report received from the field, give suggestions/ directions/ on safety measures in required cases, Arrange 'SAFE KSEBL committee' meeting, liaison with State Electrical Inspectorate, arrange inspections, prepare reports on letters/ orders from statutory bodies such as Kerala State Human Rights Commission, Kerala State Commission for Protection of Child Rights, Kerala State Information Commission etc. on matters related to accidents, continuously monitors safety systems and practices, Giving directions to conduct Safety classes/Training to Board staff ,Safety Exhibitions to public, school children.

### **2.3 COMMERCIAL & TARIFF**

2.3.1 Commercial & Tariff Wing is responsible for matters related to procurement of power, regulatory affairs including tariff, cost of distribution works, other licensees etc. and is headed

by the Chief Engineer (Commercial & Tariff).

2.3.2 Duties and Functions of Commercial wing are the following. All processes related to Purchase of long term and /medium term and/ short term power excluding renewable energy, Sale of Energy, Banking of Power, Monitoring of transmission corridors and matters related to open access, Execution of Transmission Service Agreements (including amendments as and when required), Verification & issuing admissibility of regular / supplementary/ revision bills (energy charges, open access charges, transmission / wheeling charges, trading margins etc.) on purchase of energy from Central Generating Stations, Independent Power Producers as well as other generators and Traders, Raising invoices (energy charges, open access charges, transmission / wheeling charges etc.) for sale of power to other utilities/traders, Settlement of accounts (energy charges, open access charges, transmission / wheeling charges, trading margins etc.) in the case of banking arrangements, Verification & issuing admissibility of bills raised by Central Transmission Utility, Settlement of accounts of Deviation Accounts & Reactive Energy and issuing admissibility for the same, Settlement of issues related to Purchase/Sale/Banking of power, Providing Techno – Commercial support to legal cell, Matters related to commercial aspects being taken up with SRPC/TCC meetings, Standing Committee meetings, LTOA connectivity meetings.

2.3.3 Tariff & Regulatory Affairs Cell (TRAC) is responsible for one of the most important function of filing Aggregate Revenue Requirement & Expected Revenue from charges (ARR&ERC) petition before KSERC. Not only that all and any matter which require consent from or communication to the Commission is fulfilled through the TRAC cell. TRAC Prepares and files tariff proposals for the approval of KSERC. Implements tariff revision orders of KSERC including preparation of billing procedures and ready reckoners is among the responsibilities of TRAC. Other activities of TRAC are enlisted here. Collection and analysis of category wise consumer details, such as no.of consumers, connected load, consumption on monthly basis, Collection and analysis of data related to power generation scheduling, power purchase and revenue collection, other performance parameters such as borrowings, power purchase, employee cost, T & D loss, consumption pattern of consumers etc. for the costing of service and marginal cost of electrical energy. Preparation of petitions/counters, replies etc. upon matters come before SERC,CERC,present petitions/counters before SERC upon tariff and related matters come up before the KSERC. Files petition and counter affidavits on petition filed by CPSUs and IPPs. Filing appeal petitions before Appellate Tribunal for Electricity against the orders of KSERC. Studies on differential pricing, changing time slot of Time of the Day meter and its impact on maximum demand. Preparation of necessary documents and reports to present before KSERC, CERC, Appellate Tribunal etc. Preparation of affidavit and counter affidavit on petition filed by consumers before the regulatory forums against KSEBL on issues such as tariff rates, classification, wheeling of power, incentive etc. Presents the views of the Board before KSERC and State Electricity Ombudsman during the course of hearing on various petitions. Compilation of data related to Standards of performance and submit the same to the Commission. Preparation and submission of petition on fuel surcharge and on power restriction before the KSERC as per the direction of the Board. Filing remarks/suggestions on ARR/True up petitions filed by Licensees. Filing petitions/counter petitions before Hon'ble Supreme Court /APTEL against the orders of KSERC and matters related to other distribution Licensees. Providing technical particulars for annual accounts of KSEBL.

## **2.4 PROJECTS ELECTRICAL DESIGN (PED)**

2.4.1 Projects Electrical Design headed by Chief Engineer (PED), reports to Director (Generation Civil & HRM). Major functions are Design and finalization of technical specifications, tendering & execution activities of E&M equipment for new power generation Projects, Design and finalization of technical specifications, tendering & execution activities for RMU of existing power projects. Scrutiny of DPR for approval, Tendering, Preparation of detailed tender specification for E & M works, Invitation of tender for E&M works, Evaluation of pre-qualification bid, evaluation of technical bid and price bid, Award of work, agreement execution and contract administration, Design approval for E & M part, Vetting of powerhouse general layout, Approval for E & M equipment design documents including sizing calculations and drawings, Grounding and Lightning Protection system design etc, Approval for schematic drawings for control, protection and instrumentation, SCADA, Communication and Fire Fighting Systems, Inspection, testing and quality control of E & M equipment at manufacture's work, Vender approval for the sub-contractors for E & M equipment supply & erection, Inspection of equipment at manufacturer's work & factory acceptance test witnessing, Test report approval and issue of dispatch clearance for E & M equipment, Monitoring of erection of E & M equipment, Erection program of E & M equipment is finalized jointly with the Civil Wing in line with the progress of Civil work Review of progress in routine site meetings, Taking appropriate decisions required with regard to erection activities and communicating the same to the project execution team, Monitoring of Erection, Testing and Commissioning, Approval of Pre-commissioning schedule and procedure submitted by the contractor. Based on this schedule and procedure, Board's specialized team is entrusted to witness the pre-commissioning test, along with the erection team, Approval of Pre-commissioning test results, Approval of Operation and Maintenance Manual, Issue of PAC after 72 hours test run and attending all punch-points. Design, Tendering & Construction activities for RMU of existing power projects form part of the functions of PED. The following activities are undertaken as part of this function. RLA (Residual Life Assessment study) and Up-rating study, Based on the CEA guidelines and life of the station, this office proposes conduct of RLA study. Preparation of scope of RLA and up-rating study, Based on the RLA study report, DPR is prepared based on the RLA study report approved by the Board, Preparation of DPR for RMU work of the station, Cost estimation for the works, Preparation of DPR incorporating the results of RLA and up-rating study, Presenting the DPR for the scrutiny and approval of DPR approval committee.

## **2.5 INFORMATION TECHNOLOGY**

IT wing is headed by Chief Engineer (IT & Customer Relations) who reports to Director (Distribution&Safety). IT wing is mainly engaged in the automation of the core functional areas of KSEBL, viz. Billing of LT and HT consumers, HR Management System, Accounting, and Supply Chain Management. Main functions are development, testing and rollout of Application software, maintenance and update of Application Software, providing IT support services for KSEBL officers etc. Customer Care Centre is also managed by this wing. There are three regional IT Units functioning at Thiruvananthapuram, Kochi, and Kozhikode under IT wing.

## **2.6 THERMAL PROJECTS**

The office of the Chief Engineer(Thermal Projects) was formed during June 2013 to carryout preliminary works in connection with the thermal projects in the state. The office was disbanded during March 2016 vide BO(DB) No.729/2016(D(D&S))/D6/AE2/New Region-Kannur/2016) dtd TVPM 03.03.2016.

## **2.7 SYSTEM OPERATION**

This Office is headed by Chief Engineer (System Operation). The State LD operations and related works are attended under this office. In general, Load Dispatch Activities, and all

activities in the Communication, SCADA, Protection, Power equipment testing and Meter testing field come under this office. It includes generation scheduling, maintenance scheduling, scheduling of power from IPPs and CGS on long term as well as on daily basis, economic load dispatching, merit order dispatching, unit commitment policy, real time load restrictions as and when necessary, fixing up of merit order for under frequency tripping and remote switching operation from SLDC, overall system analysis, coordination of the works under communication, TNMS, SCADA, and Protection, PET and Meter testing fields , SRPC affairs, Coordination of ULDC activities, IPLC etc. An ARU is attached with this office for dealing power purchase through Power Exchange.

Real time operation of the grid, certification of availability of IPPs, planning of Load Dispatch activities, Short term and Long term load forecasting, Monitoring of reservoir levels, Water Management, JWRB matters, Open Access CERC, SERC matters, SRPC matters and representing Board ,Grid study, Load Flow studies, analysis of interruptions and corrective actions, proposal for bilateral trading, Projection of cost for merit order of IPP's & Thermal generation, Power purchase agreements, verification and certification of power purchase bills, UI bills and reactive power bills, power exchange bills, bilateral purchase/sale bills, STOA bills, Regional energy accounts and other energy accounts, IRE pool account, Protection Audit related matters etc are the important activities.

## **2.8 SUPPLY CHAIN MANAGEMENT**

Supply Chain Management is headed by Chief Engineer (SCM), who reports to Director (Corporate Planning&SCM). Prepares the Purchase Plan for procurement of centralized distribution and transmission materials and place it before the Purchase Committee and Full Board for approval. Procures materials based on purchase plan. Arrange the raw materials required for the fabrication of line materials. Inventory control is exercised by the three SBUs. This office monitors and reviews the flow of materials. This wing assures supervisory control in ensuring the quality of materials procured through centralized procurement scheme. This wing also evolves technical specifications and standards for material procurement. As per the material requirement received from the Distribution Chief Engineer's office, the allocation of materials are carried out through SCM software by Chief Engineer(SCM).

## **2.9 PLANNING WING**

Planning wing is headed by Executive Engineer who directly reports to Director (Corporate planning and SCM). The major functions of planning wing are preparation of documents related with Annual, Five year and Long term perspective plans, involving in regulatory and policy matters, liaison with Central and State Governments, and outer agencies on matters of corporate nature.

## **2.10 POWER SYSTEM ENGINEERING**

Power System Engineering wing functions under the Transmission SBU.

Functions of Power System Engineering Wing are Conducting Load flow Studies using MiPower software for finding out the feasibility of proposals for construction/Upgradation/capacity enhancement of Substations, Lines and power evacuation proposals for new/existing projects as received from field. Listed out here are the activities of the power System study. Conducting short circuit studies for finding out fault level of substations in the KSEB grid. Conducting loss study of Transmission network. Preparation of

Single Line Diagram and Geo-referenced Grid Map of KSEBL. Development, implementation and maintenance of Web based business modules for Transmission Asset Management System( TrAMS), SoS (offline as well as online), Asset Commissioning and Maintenance System (A-CAMS), Monitoring of LFS and Ground Grid Design Proposals, Project Monitoring, Interruption reporting and analysis, Equipment failure reporting and analysis, Protective Device Management system etc. Collection and analysis the Monthly Operating Review (MOR) of Substations and Generating Stations, check the loading of Transformers, healthiness of energy meters/capacitor banks etc and follow up action and submission of reports to Board. Addressing matters related to CEA, SRPC, TCC, CERC and other Central and Southern Regional Forums. Earth Mat designing for Substations using Auto Grid Pro software. Load flow studies using PSS/E, Monitoring of progress of major ongoing transmission construction works on a monthly basis and addressing the issues/bottlenecks associated with them to higher authority, Preparation of transmission plans, Providing Administrative support and Functions towards the implementation of Trans Grid 2.0 Projects. Providing Administrative support for Trans Grid 2.0 Projects, Project Monitoring, Facilitation, Liaisoning with Funding Agency.

### **2.11 OFFICE OF RESIDENT ENGINEER AT NEW DELHI**

Functioning of the Liaison office for KSEBL at New Delhi had been ordered vide B.O dtd 30.7.1997 and 9.7.1998. The office of Resident Engineer is functioning at OB-8 Travancore house New Delhi with effect from 15th April 2016. The Resident Engineer acts as a Liaison Officer for KSEBL for the Ministry of Power, and other central ministries and organizations such as Central Electricity Authority, Bureau of Energy Efficiency, Central Water Commissions, Central Board of Irrigation and Power, Power Finance Corporation, Rural Electrification Corporation, National Solar Mission, World Bank, JICA etc. The Resident Engineer has the role of the counsel on KSEBL matters before the fora such as AIIFR, BIFR and CERC. The Liaison officer is responsible for the proper coordination between the Board's Counsel in Delhi and the Office of the Legal Advisor & Disciplinary officer and TRAC for the proper conduct of the several cases of KSEBL going on in various courts such as Supreme Court of India, High Court of Delhi and Appellate Tribunal for Electricity, National Dispute Redressal Commissions, and Central Empowerment Committee for Environment & Forest, Central Electricity Regulatory Commissions, BIFR, AAIFR etc. Resident Engineer as the Liaison Officer facilitate for the transit and accommodation of officers of KSEBL who reach Delhi for official purposes and arrange for the meetings with the concerned. Resident Engineer on instructions from the Board attends and witness acceptance tests of materials being procured by KSEBL in the factories in and around Delhi.

### **2.12 CIVIL INVESTIGATION AND PLANNING**

This wing is headed by Chief Engineer (Civil I&P) under Generation SBU. This office identifies the potential of hydro-electric schemes- both small and large- that can be taken up for implementation, conducts preliminary and detailed investigation/ survey jobs, prepare Preliminary/ Detailed Investigation Reports (PIR/ DIR) and prepare Draft Detailed Project Reports (DPR) for those projects that are found technically feasible and economically viable. Investigation of Capacity Addition of existing major power project, pumped storage scheme and solar projects are also dealt with. Activities related in obtaining Forest and Environmental Clearances for the various projects, issues on Inter-State water disputes, Clean Development Mechanism (CDM), financial assistance from MNRE for the implementation of HEP through Forest Environmental Management Unit (FEMU) comes under the scope of this office.

### **2.13 DAM SAFETY**

Safety aspects of 58 dams of KSEBL are monitored by the Dam Safety Wing headed by Chief Engineer (Civil-Dam Safety & DRIP) under Generation SBU. Execution of Dam Rehabilitation and Improvement measures approved by CWC and aided by World Bank are the major functions. Other important activities include instrumentation and preparation of inspection reports, maintenance of dams and connected structures, operation of intake, spillway gates and disperser valves as and when required and its maintenance, general upkeep and maintenance of the dam and its connected structures to ensure their security, arranging security at vital points, material testing, mix design and model studies, monitoring of seismic network, upkeep & maintenance of colony at Vazhathope, Kakkad, Kochu Pamba, Pambla & Padinjarethara, issues regarding land encroachment in Idukki, Ayyappancovil, Lower Periyar, Anayirankal, Kakkad and demarcation of land and land issues at Thariode, research activities based on the dam monitoring results especially for the major & old dams, implementation of Dam Rehabilitation and Improvement Project aided by World Bank. The Sports Pre-engineered Infrastructure and New Technology ('SPIN') unit under this office is engaged in the construction of prefabricated/pre-engineered buildings. 'SPIN' also takes up consultancy works of other Government Departments. Civil Division under this office is executing all capital as well as maintenance works of KSEBL's headquarter 'Vydyuthi Bhavanam' at Pattom, Thiruvananthapuram.

### **2.14 FINANCE & ACCOUNTS**

Finance and Accounts wing is headed by the Financial Advisor who reports to Director (Finance). This office undertakes financial management in terms of long term and short term resource mobilization, working capital management, investment management, financial planning, budgeting and budgetary control, management of cash flows, corporate banking and treasury management.

### **2.15 INTERNAL AUDIT**

The Chief Internal Auditor heads the Internal Audit wing and reports to Director (Finance). This office carries out post audit, pre-audit and pre-check functions by the teams in the corporate office as well as Regional Audit offices. Pre-check of bills in respect of capital expenditure and Repairs and maintenance bills related to Transmission, System operation, IT and Civil wings are done by the Resident Concurrent Audit (RCA) office, under the Internal Auditor. Other audit sections at the head office are Work audit section for audit of work bills, EAD/GAD sections for audit of establishment bills, Pay fixation & Pension audit sections for audit of pay/pension fixation, GPF sections for maintenance of GPF, ARI section as interface between KSEBoard Ltd and the Accountant General/Govt/PUC/and the RAO monitoring cell responsible for review, follow up and consolidation of audit report of Regional Audit Offices and Arrear clearance cell for preparation of reports regarding arrears of EHT/HT/LT consumers.

### **2.16 LEGAL WING**

Legal wing is headed by the Legal Advisor and Disciplinary Enquiry Officer (LA & DEO) - who is a District Judge from the judiciary on deputation - reports to Chairman & Managing Director. The main function of this wing is to conduct cases filed by and against KSEBL before various courts including Hon'ble Supreme Court, other Judicial Fora and Tribunals.

KSEBL has 68 standing Counsels for handling the cases before Lower courts in the state, three Senior Standing Counsels and five Standing Counsels for High court, and one standing

counsel for Supreme court.

LA & DEO gives legal advice and clarification on the legal matters on various files, important legal issues taken up by various field officers of KSEBL and scrutinize reports of title deeds for the acquisition of properties. Agreements executed between KSEBL and the contractors, power purchase agreements and tender documents are vetted by LA & DEO. Nominee of Legal Adviser & Disciplinary Enquiry Officer attend the pre-qualification committee meetings

As Disciplinary Enquiry Officer, LA&DEO conducts enquiries into the allegations of misconduct against Board's officers/Workmen, which are referred by the Chairman and Managing Director, KSEBL under Regulation 5 of the Kerala State Electricity Board Limited Employees Disciplinary Proceedings (Conduct of Enquiry) Regulations, 1974.

There is a Legal Liaison Office functioning at Ernakulam with staff of Kerala State Electricity Board Limited for monitoring the conduct of cases at Hon'ble High Court. The Resident Engineer posted at New Delhi monitors the conduct of cases at Hon'ble Supreme Court and other quasi-judicial Appellate Fora at New Delhi. In the matter of litigations the above said offices act as per the advice from the LA&DEO.

### **2.17 CHIEF PUBLIC RELATIONS OFFICER**

Public Relations Department headed by Chief Public Relations Officer(CPRO) and reports to Chairman & Managing Director. This wing plays a central role in the management of communication between KSEBL and its various Public. It acts as an interface to maintain good relationship among KSEBL, Public and the media. The three sections under this wing are (i) New Media Cell, (ii) Mass Communication and Advertisement& Front office, (iii) Hospitality & Liaison.

CPRO processes statewide tender notices for publication in newspapers, Government website and website of KSEBL. Advertisements related to disciplinary proceedings, statutory notices, display and special advertisements in connection with construction/commissioning and inauguration of projects and new offices, various activities of KSEBL like energy conservation, safety etc are also managed through the office of the CPO. The face book page of KSEBL (<https://www.facebook.com/ksebl>) managed by this wing. KSEBL also uses Twitter (<https://twitter.com/KSEBLtd>) to communicate to the public.

### **2.18 PERSONNEL DEPARTMENT**

Personnel Department is headed by Chief Personnel Officer (CPO) who is assisted by one Regional Personnel Officer. CPO reports to Chairman& Managing Director. Office of the CPO Functions as an effective machinery in evolving decisions related to Personnel Management, Industrial Relations and Labour Welfare functions related to collective bargaining, conciliation, arbitration and adjudication. This department conducts review of representation of SC/ST employees in the organisation in every quarter. Conduct Workmen's Compensation cases directly and through counsels. Cases of Industrial disputes claim petitions, original petitions and gratuity cases if needed to be contested, shall be managed from the office of the CPO.

### **2.19 SPECIAL OFFICER (REVENUE)**

HT/EHT billing and allied works are carried out from the office of the Special Officer (Revenue) (SOR) who reports to Director (Finance). Revenue billing and allied works involving



Licensees, Captive power plants and Railway traction also falls under SOR. Interstate wheeling charges and reactive energy charges of the above mentioned categories are done by SOR. Collection of cash deposit / additional cash deposit and its interest adjustments and accounting, issuance of disconnection/ reconnection notice to defaulters, follow up of revenue recovery and court cases pending before various courts/ other forums are the allied responsibilities.

## **2.20 VIGILANCE & SECURITY**

2.20.1. Vigilance and Security Wing is headed by Inspector General of Police who is under deputation from the state Police Department. He is in-charge of Chief Vigilance Officer and reports to the Chairman & Managing Director. There are two wings namely, 'Vigilance' and 'Anti Power Theft Squad' (APTS) under the control of Chief Vigilance Officer.

2.20.2 Vigilance Wing is constituted to effectively combat corruption and misconduct on the part of officers / employees of KSEBL. It deals with complaints of misconduct, malpractices, irregularities, corruption, etc. against KSEBL Officials and also the security aspects of KSEBL's installations. This wing Prepares Statement of Facts for cases at Hon'ble High Court, Lok Ayuktha, Civil Courts and CDRF where the Chairman or Chief Vigilance Officer is the respondent. Vigilance wing is responsible to conduct enquiries against issues such as pilferage of energy, unauthorised connections, under billing, misuse, misappropriation and theft of stores & funds and other properties of KSEB Ltd, misuse of departmental vehicles, corrupt practices in respect of purchase, distribution & disposal of stores, transactions with fictitious firms and other irregularities relating to tenders, quotations etc, false claims of TA, medical reimbursement etc, illegal gratification in any form, nepotism, causing wrongful loss to Board's property or revenue or claims or dues, any dishonest or intentionally improper conduct on part of a Board employee / officer or abuse of his power as a Board employee / officer, any other types of misconduct / irregularity as may come to light from time to time. This wing also makes enquiries and gives clearance for various purposes such as Promotion of employees/officers, pensionary benefits to retired officers, taking up employment abroad, and invalid pension. Other duties assigned to the wing are initiating and taking follow up action in all disciplinary cases initiated against officers of and above the rank of Executive Engineer/ Accounts Officer, processing of appeals preferred before Chairman & Managing Director, KSEB Ltd, prohibitory orders for classified area, follow up action in all VACB surprise checks and prosecutions at the instance of Government, preparation of Statement of Facts for cases at High Court, Lok Ayukta, Civil Courts, CDRF where the Chairman or Chief Vigilance Officer figure as respondent, liaison work with Police Department in the event of strike or agitation, advice on security measures of projects and other important installations of the Board.

2.20.3 Anti Power Theft Squad (APTS) is constituted under Inspector General of Police as a central agency to detect pilferage and misuse of electricity all over the State of Kerala.

Anti Power Theft Squad (APTS) is constituted under Inspector General of Police (CVO KSEB Ltd) as a central agency to detect pilferage and misuse of electricity all over the State of Kerala. Deputy Chief Engineer, APTS, Thiruvananthapuram, co-ordinates the APTS activities in Southern Region, Central Region and Northern Region and the Head Quarters of these 3 regional units are located at Thiruvananthapuram, Aluva and Kozhikode. Executive Engineers are in charge of the regional units. The APT Squads inspect and detects irregularities

committed by any section of consumers. Included in the functions of Anti Power Theft Squad are systematic collection of information on power thefts and follow up action, initiating action on complaints of power thefts received from various quarters, maintaining liaison with local police officers and ensuring that the cases reported to them are properly investigated and successfully prosecuted in the Courts of law, and monitoring the progress of prosecution in cases of power theft to ensure their successful completion.

#### **2.21 LAND MANAGEMENT UNIT (LMU)**

The Land Management Unit (LMU) was constituted in KSEBL in 3-3-2014 for effective inventorisation of landed property of KSEBL and to provide guidance for the effective management of land. Steps were initiated to take stock of all the land parcels and inventorise these in a systematic way. The LMU captures about 25 parameters pertaining to the land parcels in specific format which has been digitized in special software prepared by MIS unit of KSEBL. 1900 Land parcels (Non Forest Land) were entered in the above Database are made available online as per below details-

- Distribution Profit Centre-150 land parcels having 46.1852 Hectares(114.1259 Acres)
- Transmission Profit Centre-497 land parcels having 884.9198Hectares (2186.681 Acres)
- Generation Profit Centre-1250 land parcels having 4556.4267Hectares(11259.1582 Acres)
- Corporate Office-3 land parcels having 2.73Hectares(6.74Acres)

#### **2.22 OFFICE OF THE CHIEF ENGINEER GENERATION, MOOLAMATTOM**

31 Hydro Electric Power Plants, 2 Thermal Power Plants and 1 Wind Farm totaling to an installed capacity of 2208.11MW are being managed by the office of the Chief Engineer Generation. The functions of this office are to ensure maximum availability of generating units, ensure that the recommended maintenance of various equipments are scheduled and undertaken, monitor the scheduled maintenance of electromechanical equipments of all generating stations and procurement of the spares for scheduled maintenance for thermal stations, co-ordination of various agencies such as manufacturers, specialists for immediate rectification of breakdown of generating equipment, to arrange special maintenance of equipment as and when necessary, ensure that the dispatch schedule of the Load Dispatch Centre is followed, prepare data related to energy transaction to Transmission and Distribution Profit Centres, keep track of performance of the generating equipment, Implementation of RMU works of Hydel stations, upkeep and maintenance of staff colonies, inspection bungalows and buildings related to power stations, up keep and maintenance of assets of the generation stations etc.

The Chief Engineer (Generation) also acts as the member of the committee for the approval of Detailed Project Reports of new hydro projects.

#### **2.23 OFFICE OF SECRETARY(ADMINISTRATION)**

The Secretary is the authorized representative of the Board for the general administration and legal matters. The following officers report to the Secretary: Deputy Secretary (Administration), Chief Personnel Officer, Public Relations Officer, Resident Engineer (New Delhi) and Assistant Engineer (Vehicle Monitoring Cell).

The Secretary of Kerala State Electricity Board is re-designated as Secretary (Administration), Kerala State Electricity Board Limited vide B.O.(CMD) No.20/2014 (CMD/100/Estt.2014), Thiruvananthapuram, dated 06.01.2014 and is delegated with powers

to issue orders & sign vakalaths on behalf of the Director Board or Kerala State Electricity Board Limited.

### **3. HUMAN RESOURCES MANAGEMENT**

3.1 Human Resource Management (HRM) wing is headed by Chief Engineer (HRM) and reports to Director (Generation-Civil & HRM). The main functions and responsibilities of the HRM are to make appointment to all cadres up to and including Assistant Executive Engineer/Assistant Accounts Officer /Assistant Finance Officer, order transfer and posting of employees of and below the rank of AEE/ AAO/ AFO, report vacancies to Kerala Public Service Commission (except that of Electricity Workers), appointment on compassionate ground of the dependent employees, appointment of paid and unpaid apprentices, organising all the training related activities under the HRD Cell, sanctioning of all kinds of leave exceeding 120 days except study leave & leave without allowances, sanctioning of special disability leave of and below the category of AEE/AAO/AFO, pensioner claims, processing of income tax statement, life certificate, preparation of gradation list, sanctioning of medical advances etc. issuance of NOC for study purposes, applying for passport etc., acts as disciplinary authority of staff of and below the rank of AEE/AAO/AFO, claiming and disbursing the salary of all officers/employees in the Vydyuthi Bhavanam, Thiruvananthapuram and the upkeep of their service books.

Salient details on the working personnel in KSEBL for the financial year 2016-17 are given below:

- Total working strength of personnel as on March 2017 is 33030.

Generation	- 1,696
Transmission	- 3,184
Distribution	- 27,306
Corporate office	- 844
TOTAL	- 33030
- 1684 recruitments were made through PSC and 70 appointments were made under compassionate scheme.
- 761 paid apprentices and 1213 unpaid apprentices were selected for appointment.
- 2 numbers of persons are appointed in supernumerary posts.
- 1340 vacancies were reported to PSC.
- 1066 numbers of promotions were effected on various categories of and below the rank of Assistant Executive Engineer (Electrical) and Assistant Accounts Officer.

3.2 Human Resource Development (HRD) Cell headed by Executive Engineer coordinates the training activities conducted at Power Engineers Training and Research Centre (PETARC) at Moolamattom, Regional Power Training Institutes at Thiruvananthapuram, Kottayam, Thrissur and Kozhikode, and Southern Region Computer Training Center at Vydyuthi Bhavanam, Thiruvananthapuram. PETARC is a full- fledged training center of KSEBL

imparting technical as well as management training to the officers of KSEBL and has been recognized as a Category 1 training centre by Central Electricity Authority. Human Resource Development wing deputed officers for attending training programmes outside state to institutions such as ESCI Hyderabad, CIRE Hyderabad, CPRI Bangalore, PMI Noida, TNEB Madurai, NPTI Neyveli, PSTI Bangalore, etc.

3.3. Board had constituted a committee for formulating a training policy as per the National Training Policy 2012 issued by, Ministry of Personnel, Govt. KSEBL adopted this policy w.e.f April 2017.

National Training programme to the C&D employees (Sub Engineer, Senior Assistant, Cashier, Overseer, Lineman, Meter Reader, Electricity Worker etc.) with the financial assistance of Ministry of Power, Government of India – aims to improve the overall performance of the employees who have more interfaces with the customers. KSEBL has executed MoU with REC-CIRE, the nodal agency for implementing the programme. Accordingly 165 linemen were trained by conducting 7 programmes, 196 Senior Assistants were trained by conducting 8 programmes. 168 Sub Engineers were trained by conducting 7 programmes, 50 Meter Readers were trained by conducting 2 programmes, 140 Overseers were trained by 6 programmes and 1781 Electricity Workers were trained by conducting 74 programmes.

Oruma NET training to the end users at Electrical Sections; training to the end users on RAPDRP Project modules such as MDAS, GIS, EA & NA.; training on Customer Care Centre Software to the employees; training on Professional Effectiveness and Customer Interaction Skills for field staff of Distribution wing was provided by engaging M/s. Mind Speed Integrated Solutions, academic professionals from Bangalore;

During 2016-17, PETARC had conducted 83 programmes and trained 2,133 persons. It has been decided to introduce the integrated Induction cum Statutory Training Programme for the newly recruited Assistant Engineers of KSEBL at PETARC w.e.f 2017-18 as per the Central Electricity Authority Guidelines. PETARC conducted need based trainings for the Electricity Department Staff of Lakshadweep Electricity Department during 2016-2017.

Regional Power Training Institutes have conducted 658 programmes on various subjects and trained 19,920 employees. A total of 22,447 employees were trained during the financial year 2016-2017.

Outside training was imparted to 346 employees by deputing 99 of them for attending various training programmes outside the state and 247 persons for training programmes within the state.

An amount of Rs. 2,29,61,593/- has been spent towards expenditure for conducting training for the year 2016-2017.

Many organizations and professional students have identified KSEBL for doing their project work at graduate and postgraduate level. Accordingly 106 students from professional colleges have done their project works, 3 students have done their research works and 4,886 students have done their industrial training in various powerhouses, substations and field offices of KSEBL during the year 2016-17. An amount of Rs.46,19,250/- has been collected on these accounts. In addition to the above, students from ITI, Malampuzha and ITI, Aryanadu were permitted to undergo industrial training at free of cost.

## 4. IMPORTANT ACHIEVEMENTS / ACTIVITIES

### 4.1 GENERATION SBU

Description	No.	Capacity (MW)
Projects commissioned by KSEBL	1	3.6
Projects commissioned through private developers	3	39
Works in progress	9	165
Tenders invited	3	13.5
Works awarded	1	2
DPR approved and Administrative sanction accorded	2	3.5

### 4.2 TRANSMISSION SBU

Description	Achievement during 2016-17
No. of 220kV substations commissioned	Nil
No. of 110kV substations commissioned	3
No. of 66kV substations commissioned	Nil
No. of 33kV substations commissioned	7
Length of 220kV lines commissioned (ckt.km)	Nil
Length of 110kV lines commissioned (ckt.km)	67.66
Length of 66kV lines commissioned (ckt.km)	Nil
Length of 33kV lines commissioned (ckt.km)	75.77
Transmission capacity added including new substations	280.5 MVA

### 4.3 DISTRIBUTION SBU

Description	Achievement during 2016-17
No. of service connections effected	462482
No. of street lights installed	5665
11 kV line constructed (km)	1846
LT line constructed (km)	5358
No. of distribution transformers installed(Nos.)	2271
Meter replacement (Nos)	469285
HT re-conductoring (Ckt.Km)	888
LT re-conductoring (Ckt.Km)	14137
1Phase to 3Phase Conversion (km)	2283

#### 4.4 PLANNING WING

Matters of Corporate nature which cannot be specifically assigned to one of the SBUs are dealt by the Planning Wing. Activities of this office in the reporting period included prepared Annual Plan for 2017-18 including Capital investment plan for 2017-18 and revised capital investment plan for 2016 -17; provided data for the preparation of perspective plan of Distribution Sector for the period 2016-2022 to Central Electricity Authority, submitted reports to GoK on Subject Committee, demand for grant, Budget Speech, and Governors Address; submitted Monthly plan progress report, and notes on the issues for Annual Conference of District Collectors and Head of Departments; prepared draft MoU for UDAY (Ujwal Discom Assurance Yojana) in consultation with REC, the nodal agency of UDAY; submitted notes on the issues to be taken up with Government of India in various conferences namely Chief Minister's Conference, Power Minister's Conference, MP's Conference, Chief Secretaries Conference; submitted to the Board of Directors, the status paper on matters such as power position, physical as well as financial performance of the strategic business units and Corporate office; provided details such as Quarterly performance report, Quarterly AT&C loss to PFC, Reliability index, data for All India Electricity Statistics, Data for Economic review, Progress report/RFD monitoring of transmission works etc to various State/Central organisations namely CEA, PFC, State Planning Board, and Government of Kerala; prepared the booklet Power System Statistics 2015-16; prepared the list of beneficiaries of consumers belonging to SC/ST and BPL categories to whom free connection provided by KSEBL from 1.4.2016 upto 31.10.2016 for obtaining reimbursement from Government of Kerala; provided data for the infrastructure projects in to the website of government of India; co-ordinated and followed up action for pending issues including appeal petition on the allocation of Baitarni West Coal block; explored options for getting re - allocation of Baitarni Coal block or allocation of new coal block under provisions of the Coal Mines(Special Provisions), Act 2015.

Government of Kerala, KSEBL and GoI signed the UDAY document on 15.03.2017.

#### 4.5 RENEWABLE ENERGY & ENERGY SAVINGS

##### 4.5.1.1 Solar projects commissioned / added during 2016 -17

Sl. No	Name of Project	Installed capacity (MW)	Date of Commissioning
1	Solar power plant at Kollengode Sub Station premises	1	08.08.2016
2	Solar power plant at Padinjarethara Dam Top	0.44	29.08.2016
3	Solar power plant at Edayar Sub station premises	1.25	05.09.2016
4	Generation Roof Top 18 Nos	0.7	2016-17
5	Palakkad Tribal Colonies 7 nos (off grid) DDG	0.065	2016-17
6	Barapole Canal Bank	1	07.11.2016

7	Barapole Canal Top	3	17.11.2016
8	Roof top Transmission Buildings (27 Nos) of KSEBL	0.075	Work completed energisation awaiting.
9	Roof top Distribution Buildings (12 Nos) of KSEBL	0.05	Work completed energisation awaiting.
10	Total Electrification (off grid)	0.0042	Completed
11	Solar Garden at Padinjarethara and solar flower in front of Vidyuthi Bhavanam , Pattom	Decorative solar installation	
12	Grid connected Solar power plants 417 Nos through consumers	6.19	2016-17

#### 4.5.1.2. On- going solar projects

	<b>Location of solar Project</b>	<b>Installed capacity (KW)</b>	<b>Status</b>
1	Ettumannoor Substation premises	1000	Work in progress
2	Thalikulathur Substation premises	650	Inspectorate approval pending
3	Muvattupuzha “	1250	Work in progress
4	Pothencode “	2000	Work in progress
5	Peerumed “	500	Work in progress
6	Kuttiapuram, “	500	Work in progress
7	Ponnani “	500	Work in progress
8	Nenmara “	1500	Work in progress
9	Vydyuthi Bhavanam ,Thiruvananthapuram (rooftop )	30	Inspectorate approval pending
10	Kottiyam Substation premises	500	Tendered
11	Mylatty Substation premises	1000	Tendered
12	Peruthenaruvi Generating station premises	450	Tendered
13	As part of IPDS scheme	1120	Tendered
14	Distribution office buildings (Roof Top)	460	Work in progress and nearing to completion
15	Transmission office buildings (rooftop)	910	Work in progress and nearing to completion
16	5kw rooftop project in 8 schools	40	Tendered
17	Implementation of grid tied Roof Top Solar Projects for Government buildings under District Panchayat	1285.5	Tendered
18	Madakkathra Substation premises & Pole Casting yard at Choolissery	1500	Re-Tendered

#### 4.5.2. Implementation of Solar Parks

##### (1) 200MW Kasargode Solar Parks

M/s Renewable Power Corporation of Kerala Ltd., the Joint Venture Company of Solar Energy Corporation of India and Kerala State Electricity Board designated as the 200MW Kasargode Solar Power Park Developer (SPPD) has commenced its functioning. KSEBL has completed the taking over of entire land identified by the Revenue department, for the Park and is in advance possession of 1086.66 acres of land. The formal assignment process is under process with State Government. The implementation of 50 MW on behalf of Indian Renewable Energy Development Agency (IREDA) has been commenced during April 2016 and has commissioned 36MW by the end of the financial year. KSEBL has signed the draft Power Sale Agreement of IREDA on 31<sup>st</sup> March 2017.

##### (2) 200MW Cheemeni Solar park

The Ministry of New and Renewable Energy vide its order no.30/26/2014-15/NSM dtd 21.3.2017 has notified the scheme for enhancement of capacity from 20,000MW to 40,000MW for Development of Solar Parks and Ultra Mega Solar Power projects. Government of Kerala has intimated the requirement for the additional Solar Park of 200MW capacity in Kasargode District at Cheemeni. Transferring of the tentatively identified 1000 acres of Government land at Cheemeni to State Utility is in progress.

#### 4.5.3. ESCOT activities 2016 -17

1. Investment grade Energy Audit of Govt. Medical College, Thiruvananthapuram conducted.
2. Conducted Energy Audit of Kerala State Science and Technology Museum and Planetarium and audit of Sastra Bhavan, Thiruvananthapuram, Kariavattom University, NORKA building, Thiruvananthapuram, Guatham Hospital, Ernakulam has started.
3. As part of Agricultural DSM activity, replaced agriculture pump set with energy efficient agriculture pump set at Kerala Agricultural University at Vellayani, Thiruvananthapuram.
4. Approximately 85 lakh LED bulbs were distributed through Electrical Sections as part of DELP programme.
5. Programme on installation of LED streetlight at Alappuzha Municipality has completed.
6. Project for installation of 407 numbers of 18 watts LED street light at Vellachira at Thrissur District has completed.
7. As part of Energy Efficient Fans and Tubes (EEFT) Project, purchase order has been issued for 1000 fans to retrofit fans in KSEB buildings with energy efficient fans as the first phase.
8. As part of Empowering consumers for Energy Efficiency (ECEE), pilot survey has completed in Malappuram District in co-ordination with NSS Technical Cell.
9. Preliminary works for installation of solar panels on schools has commenced in connection with the Labha Prabha Season – 3 programme.

#### 4.6 SAFETY

The safety week 2016 has been observed from 1<sup>st</sup> to 7<sup>th</sup> May, in order to “**Strengthen Safety Movement to Achieve Zero Harm**” with the co-operation of Department of Electrical Inspectorate, Bureau of Indian Standards, Institution of Engineers (India), Energy Management Centre, ANERT and Department of Factories and Boilers. In connection with safety week 2016, following activities were observed during 2016-17.

- Conducted first aid training to Board Staff.
- Conducted safety awareness class for contract workers.
- Conveyed safety messages through FM Radio.
- Conducted Road Show to convey Electrical safety messages.
- Distributed Safety slips, brochures etc. among public.
- Displayed Safety Cartoons in front of Cash Counters of all Electrical Sections.



- Awareness programme on usage of Earth-leakage circuit breaker (ELCB) to public and fabrication/ welding/ truss work contractors conducted.

• As per BO (DB) No. 3549/2016, [CE (CAPS& Safety)/S/Electrical Accidents/ FB/2016 / Tvm ] dated 20.12.2016, it was decided to take measures to curb lapses in the compliance of safety measures and to issue appropriate directions in this regard and to audit all accidental death henceforth to understand the cause and to strengthen the institutional mechanism to prevent such occurrences.

• A new safety application (SMART – Safety Monitoring And Reporting Tool) has been developed by IT wing of KSEB Ltd. and inaugurated by the Hon`ble Minister for Electricity on 15.02.2017. This software module is implemented to create authentic base line data for intensifying the safety related activities. The key functionalities of this application are creating safety awareness, accident reporting, monitoring the availability of safety tools, materials and equipments etc.

#### **4.7 COMMERCIAL & TARIFF**

##### **4.7.1 Commercial Wing**

- Arranged supply of 200MW RTC power from 10-1-2017 onwards (@ Rs 3.6/Kwh as on bid date) from Jindal Power Ltd based on LTA granted by PGCIL to the PSA executed on 29-12-2014 through bidding route.
- Arranged supply of 115MW RTC power from 22-12-2016 onwards (@Rs 4.15/Kwh as on bid date) from Jhabua Power Ltd based on the LTA granted by PGCIL to the PSA executed on 31-12-2014 through bidding route.
- Arranged supply of 156.5MW RTC power from 29-8-2016 from Kudamkulam Unit 2 based on the CGS allocation of MoP.
- Arranged supply of 100MW RTC power from 1-4-2016 at CERC tariff from DVC-Meija Power station based on the LTA granted by PGCIL to the PSA executed on 24-4-2014 through MoU route.
- Arranged supply of 50MW RTC power from 2-5-2016 at CERC tariff from DVC-Reghunathpur power station based on the LTA granted by PGCIL to the PSA executed on 24-4-2014 through MoU route.
- Arranged supply of 8.4 MW wind power from 22-2-2016 onwards (@Rs 3.95 /Kwh) from Ahalia Alternate Energy Pvt Ltd .
- Arranged supply of 165MW RTC power from 1-6-2016(@Rs 3.6/Kwh as on bid date) from Jindal Power Ltd based on the MTOA granted by PGCIL to the Supplementary PSA executed on 27-6-2015 for advancing date of commencement of supply to 1-6-2016 from the initial start date ie.1-12-2016.This MTOA was relinquished subsequent to the grant of LTA for 200MW.
- Arranged supply of 122MW RTC power commenced on 1-6-2016 at CERC tariff from Maithon Power Ltd. started based on the MTOA granted by PGCIL to the PPA executed on 29-6-2015 for purchase of 150MW RTC power on long term basis for a period of 30 years from the date of CoD of the station.
- Purchased 100 MW power during peak hours and 50MW power during off peak hours from 5-5-2016 to 31-5-2016 through PTC India Ltd from DVC in eastern region by participating in

the e-tender through DEEP Portal.

- Purchased 200MW RTC power through M/s PTC India Ltd from Jindal Power Ltd(JPL)/Jindal Steel Power Ltd(JSPL) for the period from 1-3-2017 to 30-6-2017 as per the PPA executed on 31-3-2016 .MTOA was granted to the supply of above 200MW by PGCIL and supply commenced from 1-3-2017 .
- Purchased of 100MW RTC power and 100MW Peak power from M/s. Jindal India Thermal Power Ltd in Eastern region for the period 1-3-2017 to 31-5-2017 through M/s TPTCL as per the PPA signed on 11-12-2016 .
- Purchased 50 MW power from 00:00-05:00 hrs through banking mechanism by participating in the bid through M/s GMR Energy Trading Ltd (GMRETL) floated by BRPL (BSES Rajdhani Power Ltd) in the Northern region for the period 6-3-2017 to 31-3-2017 .

#### Summary table on Power Procurement from various sources during 2016-17

Description	Quantum(MU)	Amount (Rs. in Crores)
Central Generating Stations	10571.38	3576.64
Independent Power Producers (liquid fuel stations)	14.929	226.427
Independent Power Producers (hydro stations) & Captive Power Plants	60.054	20.33
Independent Power Producers (wind stations)	77.608	24.786
Bilateral Contracts and Power Exchanges	8220.348	3267.9833
Unscheduled Interchange	735.692	136.0179
Sale through Power Exchanges	49.266	11.8896

#### 4.7.2. Tariff Wing

- Filed petitions before KSERC for extension of validity of tariff order dated 14.8.2014 , for Procurement of power on short term basis as per revised guidelines issued by MoP, for Banking and settlement procedure of renewable energy above 1MW , for adoption of tariff for procurement of 200MW RTC power on short term basis from M/s PTC India Ltd and for 100MW for short term procurement of power, for capital expenditure plan for 2016-17, for providing Generation based incentive for all off grid solar generators in the state , for low voltage supply surcharge and high voltage supply rebate details, regarding revision of cross subsidy surcharge and imposing additional surcharge for open access consumers for 2016-17, for true up petition for 2013-14, for extension of PPA with BSES Ltd, on additional liability on Generation and Power purchase due to variation in variable cost, for granting 'in-principle approval' for the Trans Grid 2.0 project, for purchase of 200MW power through e-bidding process, for fixing average pooled power purchase cost of KSEBL , for fixed charges of RGCCP, Kayamkulam in ARR of KSEBL, for re - categorization of call centers under LT IV(B) IT & ITES category, to adjudicate the dispute with LANCO Kondapally Ltd, for seeking consequential orders as per APTEL judgement in the matter of Truing up of accounts for the year 2009-10, for revision of cross subsidy surcharge and imposing additional surcharge for open access consumers for the year 2016-17, for one time settlement scheme, for 100MW RTC & 100MW peak power from March 2017 to May 2017, on cross subsidy surcharge and additional surcharge, on petition filed by CIAL seeking refund of registration fee of Rs.1.3 crores along with interest and seeking execution of banking agreement for Solar Plants.

- Submitted proposal to KSERC on simplification of procedures for availing service connection as part of Ease of doing business of GoK.
- Filed additional submission filed against the suo moto proceedings initiated by KSERC for tariff determination for 16-17 and 17-18.
- Filed petition on Power Purchase Agreement of Ahalya Alternate Energy Pvt Ltd for the purchase of power from their Wind Electric Generator.
- Furnished comments on revised guidelines for allocation of Power from Central Generating Stations to the States, Draft agreement for banking of 13MW solar PV plant installed by CIAL, Review of CEA (installation & Operation of Meters) Regulations, 2006 to CEA, Draft CERC (Grant of Connectivity, LTA and MTOA in interstate Open Access) 6<sup>th</sup> amendment Regulations 2016 and CERC (sharing of interstate transmission charges & losses) 5<sup>th</sup> amendment Regulations 2016 to CERC.
- Filed counter affidavit before KSERC on the ARR & ERC petition filed by various licensees, petition filed by HT & EHT Industrial Electricity Consumers Association.
- Filed petition before CERC on claiming compensation on account of event pertaining to change in law as per the terms of PPA with BALCO.
- Filed counter affidavit on 15 petitions filed before CERC and 6 petitions before Hon'ble APTEL.
- Filed appeal petition before the Hon'ble Supreme Court against APTEL judgment dated 18/11/15 & 05/02/16 and counter affidavit Civil Appeal No.14726 filed by Association of approved & classified Hotels of Kerala.
- Furnished comments on (1)on the revised guidelines for allocation of Power from Central Generating Stations to the States (2)on the draft agreement for banking of 13MW solar PV plant installed by CIAL (3)Comments submitted to CEA on the review of CEA (installation & Operation of Meters) Regulations, 2006 (4) comments on staff paper on National Open Access Registry (5) comments on agenda points of 30th meeting of TCC (6) on the draft CERC (Grant of Connectivity, LTA and MTOA in interstate Open Access) 6th amendment Regulations 2016 and CERC (sharing of interstate transmission charges & losses) 5th amendment Regulations 2016 .

#### **4.8 PROJECTS – ELECTRICAL DESIGN (PED)**

- The agreement was executed for the work of renovation of the Sengulam pump house with M/s SSIPL-FML Consortium on 15.6.2016.
- The rectification and strengthening works of penstock No.1 of Poringalkuthu Hydro Electric Project was put into service on 25.6.2016.
- Agreement executed with M/s ALSTOM Pvt.Ltd on 24.9.2016 for the work of Renovation of Idukky 1<sup>st</sup> stage machines .
- Letter of Award for the replacement works of penstocks of Sholayar HEP was issued to M/s PES Engineers on 31.3.2017.

#### **4.9 SYSTEM OPERATION**

##### **4.9.1 System Management with minimal supply interruptions**

During the year 2016-17, the System Operation wing has managed the system in the most effective and economic manner without any generation from RGCCPP, KDPP and BDPP for supplementing the shortage of about 50% in the inflow during 16-17 water year by purchasing

power at cheaper rate arranged through traders and power exchanges. The total volume of power purchased through power exchange for the year is 601.93MU at an average rate of Rs.3.42 at Kerala periphery.

Also, the Un Requisitioned Surplus (URS) from Central Generating stations were availed as and when available. Major event in the grid during 2016-17 was the commissioning of 315 MVA, 400/1220 kV transformer ICT No. III at PGCIL substation Areacode on 07.03.2017 on temporary basis. With the addition of the transformer, the import capability has been enhanced to 2900MW from 2400MW.

#### 4.9.2 Additional power purchase\_

Additional purchase of power on medium term basis and short term basis was also planned well in advance. It was planned in such a way that the utilisation of costly power from NTPC, Kayamkulam and other thermal sources within the state is avoided to the extent possible.

KSEBL had entered into contract with PTC India Ltd through E- bidding through the DEEP portal of ministry of power, Govt of India for supply of power 200MW during the period from March 2017 to June 2017.

CTU (Central Transmission Utility) had sanctioned the transmission corridor (MTOA) on condition of completion of 765 kV Wardha - Nizamabad DC line along with 400 kV Nizamabad Dichippilly DC lines. Being the most affected constituent in Southern Region, KSEBL had followed up the matter continuously and finally got the open access approved from 1st March 2017.

In view of the extreme drought and the demand hike during March to May 2017, KSEBL had also entered into contract with M/s. JITPL through M/s.TATA power trading by E Bidding through the DEEP portal of ministry of power, Govt of India for the supply of power 100MW RTC at the rate of Rs.3.25 and 100MW peak power at the rate of Rs.3.65.

With intimation of SRLDC for corridor bidding due to the corridor congestion, KSEBL has participated in bidding for corridor and got 85MW from 00:00 to 06:00hrs & 18:00 to 24:00hrs at the rate of Rs.1.25 per unit (for corridor).

#### 4.9.3 Economic UI/ Deviation Management

UI /Deviation management was done with utmost care in planning and execution, though the operating frequency band has been stringent by revision of regulations by Hon' ble CERC. After the implementation the CERC Deviation Settlement Mechanism and Related Matters Regulations 2014, the operating frequency range has been narrowed further between 49.90 Hz & 50.05Hz, the deviation has to be reversed in a span of 12 time blocks and limit on UI was imposed irrespective of frequency. The UI import / +ve Deviation during the year was 769.67MU at an average rate of Rs.1.79 per unit and UI export /-ve Deviation was 28.97MU at an average rate of Rs.1.70.

#### 4.9.4\_PSDF works 2016-17

There are six schemes submitted for PSDF grant namely 1). Renovation and Upgradation of protection system of substations, 2). impementation of Automatic Demand Management Scheme(ADMS), 3). construction of 400/220 KV Multicircuit/Multi voltage transmission line from Madakkathara to Areecode, 4). Uprating Kakkaram-Nallalam 110KV line(45Km) & Upgrading of Nallalam-Chevayur-westhill-Koyilandi 110KV single circuit line into Double circuit line(32Km) 5). Renovation and upgradation of switchyard equipments, AGC systems for major Generating stations, AMR and associated works of KSEBL 6). Reliable Communication and data acquisition system upto 110KV substations in Kerala. Of these, item numbers (1 ) & (2) got approval, for item numbers (3 ) & (4) awaiting approval from the Monitoring Committee . Item numbers (5) & (6) submitted to NLDC.

For the Renovation and Upgradation of protection system of substations, 10 submissions were made for PSDF grant for Rs. 82.41 Crore. KSEBL received an amount of Rs. 16.43 Crore as first installment of grant out of the sanctioned grant of Rs. 82.31 crores till date.

Tripartite agreement has been signed for the implementation of Automatic Demand Management Scheme (ADMS) for this scheme and KSEBL is eligible for 10% of sanctioned grant of Rs.4.77 crores.

#### 4.9.5 Protection Audit

The revised time limit granted by Honble' CERC for completing the works identified by the Protection Audit vide order of 88/MP/2016 is 30.11.2016 for Phase -I and 31.12.2017 for Phase -II works. KSEBL had completed all works in Phase I before 30.11.2016. Also bus bar protection work in 220KV Substation Kalamassery under phase II completed and commissioned. The same work that of 220KV substation Pallom is nearing completion and commissioning scheduled on 17.4.2017.

#### 4.9.6 SCADA Up-gradation Project

Board has accorded sanction for the Up gradation of existing ULDC SCADA/EMS beyond 2011 amounting to Rs. 32.92 Crores. The MOU with respect to this project has been signed between KSEB Ltd and M/s PGCIL on 4.6.12. As per the MOU, the works to be performed by PGCIL include design, engineering, NIT, tender evaluation, finalization of contract, procurement, erection, project management, testing, commissioning and other allied works incidental thereto for the execution of the project. The work has been awarded to M/s. Alstom. The project is almost completed. Taking over certificate was issued to M/s Alstom on 31.08.2016 with date of completion on 30.06.2016 and Defect liability period is from 01.07.2016 for 1 year. The LD operations are performed with the new SCADA system successfully.

#### 4.9.7 Major purchase/ work orders issued, e-tenders floated during 2016-17

Purchase order was issued to (1) M/s Delta Test and Measurements Bangalore, for supply of transformer Oil test set for PET Subdivision, Kannur for Rs 11,76,757/- & (2). IWs Crompton Greaves Ltd, Mumbai for supply of 24 Nos Distance relay for 220KV lines under PSDF for Rs 3 1,21,266/- and to (3) M/s Crompton Greaves Ltd, Mumbai for supply of 21 Nos Numerical Differential relays for Rs 26,430,32/-.

Purchase order and work order were issued to M/s ABB India Ltd for Supply, Installation, Testing and Commissioning of Terminal Equipments SDH& PDH for fibre optic cable(24 fibre DWSM) (Sholayar and Poringalkuthu) and its integration with existing system for Rs 49,53,186/-.

Purchase order was issued to M/s Wave Electronics (P) Ltd, Ernakulam for supply of 48V 100A SMPS based Battery Charger for Rs 17,27,719/-.

Purchase order and work order was issued to M/s ZTT India P.Ltd, Andra Pradesh for providing new fiber optic links between 220KV Substation Kanhirode and Mylatty including LILO arrangements at 220 kV substation Thaliparambu and Nileswaram( supply & Installation) for an amount of Rs 2,43,74,369/-

Purchase order and work order for Supply and installation of Video Surveillance Security System in SLDC building, Kalamssery to M/s Infoniks Systems (P) Ltd.Kadavanthra for Rs 6,13,892/-.

Purchase order was issued to M/s WTC Enterprises (P) Ltd., Mumbai for supply of Selective Level Meter with oscillator for Rs 9,93,888/-.

E- Tenders were floated for providing new fiber optic links between 220KV substations Kanhirode and Mylatty including LILO arrangements at 220KV substations, Taliparamba and Nileswaram for Rs 2,45,00,000/-.

E- tender were floated for (1) supply of 48V ,100A SMPS based Battery Chargers Rs 24,30,000/- (2) supply of 48V ,200AH & 400 AH VRLA Battery Set Rs 11,70,000/- (3) supply, installation, testing and commissioning of PLCC with PC and FSK Modem for Rs 38,83,000/-

(4) supply of 48V ,50A SMPS based Battery Chargers Rs 27,59,000/- (5) supply, testing and commissioning of Digital PLCC with PC and coupling Device for Rs 70,16,000/- (6) supply of Laptops for 220kV and above substations (25Nos) for Rs 9,25,000/- (7) supply of Power Quality Analyser for Rs 24,00,000/-

E -tender for Supply, installation and commissioning of Video Surveillance Security System in SLDC building, Kalamassery, including 3 years non comprehensive annual Maintenance contract for Rs. 6,43,000/-

E- tender for leasing of existing spare optic fibre ( dark fibre of KSEBL) in the optic link between Kalamassery to Paruthipara & Kalamassery to Kannur for Rs 1,21, 14,100/-

E-tender for Supply, installation, testing and commissioning of SDH equipments for fibre optic cable (24 FIBRE OPGW- DWSM) and its integration with KSEBL Fibre Optic Network Rs 1,92,00,000/-.

#### **4.10. POWER SYSTEM ENGINEERING**

Conducted load flow studies for 88 cases; Designed Earth Mat for 43 substations; Technical loss assessment of Transmission network for various voltage levels for 2015-16 done; Software updates issued for “Power System Engineering Module”(PSEM) and activities for Development; Reactive Power Planning studies carried out on EHT Transmission network; Analysis and reply to MTOA/LTA allocations in SR; Carried out Joint Studies for evaluation / Assessing import capability of S2 region and Kerala; Fault studies conducted; GIS mapping of new substations and lines done for the preparation of Grid map; Designed documents for developing a system for automatic extraction of disturbance ,event / fault records from protective relays in substations and upgrading the same to a central server; Prepared Single Line Diagram as on 01.01.2017; Carried out joint studies with the Consultatnt from MNRE for integration of Solar Power Park at Kasargode to the grid; Power evacuation studies conducted for Wind, Solar and Small Hydro Electric projects; Implementation of 400 / 220 kV MDKA-ARKD-NLLM MCMV feeder-request for two additional bays and ICT at HVDC station-forwarded to SP&PAC,CEA and Power grid; facilitated for the issuance of Board Orders in connection with Trans Grid 2.0; Accomplished the procedures for the execution of Tripartite agreement for the work between KSEBL, GoK and GoI according to the Guidelines for funding from PSDF scheme; A pilot project was conducted at 66KV substation, Kochupamba on Earthing using Marconite (Conductive concrete), for assessing its performance in the field, where difficult soil condition persist; All works done related to the sharing of Expenditure of SRPC Secretariate for the year 2016-17; Prepared agenda points for 30<sup>th</sup> and 31<sup>st</sup> SRPC meetings; Documentation works completed on the commissioning of 3<sup>rd</sup> Transformer at 400 KV substation, Kozhikkode(Areacode).

Automatic Demand Management Scheme (ADMS) at 322 substations of KSEBL upto 33KV

#### **4.11. INFORMATION TECHNOLOGY**

Achieved for KSEBL the e-Governance Award of Government of Kerala for its ‘Customer Friendly IT initiatives in the category of ‘e-Citizen Service Delivery’ ;All Electrical Sections have been migrated to Oruma NET, the centralized LT Billing software by October 2016;New module ‘Online New Connection Service’ has been integrated to receive and process online applications for new connections;A module on ‘Grid Connected Solar Billing Management’ has been integrated for on grid solar consumers;Mobile App based on Oruma NET was developed and released for employees in order to enable them to use Oruma NET during travel,

conferences etc; An interface for mapping distribution transformers on urban / rural/ difficult area basis was provided in Oruma NET; Payment integration for mobile wallets like paytm, Vodafone m-Pesa banks, other agencies and respective reconciliation were undertaken; Payment integration with Apna CSC (Central Common Service Centre) was done; A complete module for handling Online Transfer including GIS location mapping done; Integration of Attendance Management System and Biometric Tracking system has been successfully implemented in Vidyuthi Bhavanam, Thiruvananthapuram; Additions / Modifications in Training Management System for RPTIs and PETARC done; Software modification for receiving data from AMR (Automated Meter Reading) meters done.; A module for solar net-metering has been integrated for on grid solar consumers.; The modification in the software as suggested by IT Audit team of STQC (Standardisation, Testing and Quality Certification) was done; Pilot implementation of e-office (Paperless office) package has been done in about 25 KSEBL offices including corporate offices; A full fledged Data Centre set up in Vidyuthi Bhavanam, Trivandrum for hosting the software Applications of KSEBL; As part of establishment of Wide Area Network, all Electrical Sections were connected to the Data Centre through MPLS VPN network; During the year incoming calls were 4,86,980 and 9,28,883 complaints were registered and attended through Customer Care Centre (CCC); All Electrical Sections have been migrated to CCC for complaint reporting/rectification; A Whats App no. 9496001912 has been released for customers to register their complaints. Complaints received from Facebook, e-mail etc. are also registered and followed up in CCC; The 24x7 Centralised Call Centre number 1912, is made toll free since November 2016; Software development of the applications such as Geographical Information System, Meter Data Management System, Energy Audit, Network Analysis have been completed and implementation and functional testing is being carried out in 228 Electrical sections. Asset survey of all RAPDRP towns are completed.; The application, Management Information System which is intended to monitor the performance of the organization is ready for roll-out; Third Party Independent Evaluation Agency (TPIEA) Audit for RAPDRP Part-A, IT by M/s PGCIL was initiated in February 2017; A project, Urja Sowhrida, the Bill Information System has been implemented which disseminates electricity bill information like bill amount, due date, disconnection date etc. to the consumers via SMS and e-mail as soon as the bill has been prepared in the Centralised Billing System. Reminder SMS are also sent in case of non-payment before due date and disconnection date; An Outage Management System (OMS), Urja Doothu has been implemented to send power outage information upto distribution transformer level to all consumers through automated SMS. Reports to aid corporate level outage monitoring are also provided in Urja Doothu. Outage Management System approved by MoP, Urja Mitra implemented by REC which envisages to disseminate power outage information upto HT feeder level is being integrated with Urja Doothu so that power outage information up to feeder level will be sent as SMS/call/web portal/mobile-app to consumers by Urja Mitra Application; About 76 lakhs consumers have registered to avail free bill alerts and outage information through Urja Sowhrida and Urja Doothu; Safety Monitoring and Reporting Software (SMART) has been developed and released with the functionalities such as accident reporting, generation of statutory reports for Electrical Inspectorate, provision for reporting identified defective areas and initiating workflow for rectification work, providing safety awareness through safety tutorials videos, displaying safety related board orders, minutes of Safety Committee, contact details of

Safety Officers, departments etc.;The Detailed Project Report (DPR) for 22 Crores for implementing Phase2 Incremental IT in 21 towns as a continuation of implementation of RAPDRP IT projects has been approved by PFC under IPDS on 20.2.2017;A project to implement Enterprise Resource Planning(ERP) in KSEBL has been initiated and M/s KPMG Advisory Service Pvt.Ltd.has been appointed as Project Management Agency(PMA) to conduct gap analysis of business processes and workflow applications and to find which activities are yet to be re-engineered and automated from the perspective of an integrated ERP solution; Obtained approval for a system to assess and benchmark of KSEBL distribution offices such as Electrical sections, Electrical sub divisions Electrical divisions and Electrical circles based on Key Performance Indices(KPIs); An application to monitor the progress of Total Electrification was developed and used in field offices to Corporate offices;1364 e-tenders were published during the year with total value of about 1369 Cr. Work order/Purchase order were issued to 716 tenders; Video Conferencing System has been set up in 10 loactions,viz.VB,Trivandrum, 220 kV substation Brahmapuram, 220 KV S/s Vatakara, 110kV S/s Kundara, 220kV S/s Edappon, 220kV S/s Pallom, LD,Kalamassery, 400kV S/s Madakkathara,220kV S/s Areekode, 220KV S/s Kanjikode; Cyber security measures are adopted by IT wing; The DPR for implementation of smart grid project in smart city area of Kochi with an estimated amount of Rs 126.04Cr.has been approved by Board and is submitted to GoK.The State Level Project Monitoring Unit (SLPMU) had been constituted by the GoK for reviewing the DPR.

#### **4.12 THERMAL PROJECTS**

Environment Impact Assessment (EIA) study regarding the 400 MW LNG based Combined Cycle Power Project at Brahmapuram completed and draft report submitted by the contractor is under scrutiny; KSEBL vide B.O(DB) No.2941/2016 (D(CP&SCM)/GL/2016-17) dtd 17.10.2016 had resolved to terminate the contract with M/s Wartsila India Pvt.Ltd, considering the present power scenario, levelised tariff of power per unit from the proposed plant and the repeated rejections by the Hon'ble KSERC for the request for sanction of investment for the proposed 39.86 MW gas engine based power project at Brahmapuram. The agreements were terminated with effect from 16.11.2016

#### **4.13 CIVIL INVESTIGATION AND PLANNING (I & P)**

MNRE has released Rs.1193.00lakhs during the financial year 2016-17 to KSEBLtd; Action was initiated for obtaining forest clearance for Upper Sengulam SHEP and laying of UG cable for providing supply to Mullapperiar Dam; Survey and investigation including geological exploration for various SHEP's proposal are ongoing; , Proposal for two pumped storage schemes viz. Pallivasal & Idukki pumped storage scheme has been finalized and actions are being taken to conduct survey and Investigation, Preparation of Pre-feasibility report and Detailed Project Report with the assistance of an external expert agency; 2 Nos of DPR for SHPs were completed and submitted for approval; 8 Numbers of DPR are under preparation

#### **4.14 DAM SAFETY & DRIP**

Operation and maintenance of Vazhathope, Kakkad, Kochu Pamba, Pambla & Padinjarathara colonies including inspection Bungalows were done; Maintenance and data collection from Seismic Observatories and Accelerographs at Iduuki, Kulamavu, Aladi, Meencut, Chottupara and Vallakadavu were done;As part of DRIP project, works amounting to Rs 103 Cr.has been



tendered, out of which works amounting to Rs 67.7Cr is awarded and the progress of the same are at various stages. Expenditure incurred for DRIP works during the year is Rs 32.76 Cr.; The section office buildings at Kuruvilangad, Parippally, Chemberi, Chirakkal, Charumoodu and Guruvayoor were completed using dismantled prefab housing units of national Games; The Electrical Circle office cum Electrical Division office at Harippad and Manimala control room and section office are being constructed using Glass Fibre Reinforced Gypsum (GFRG) based prefab technology; The Electrical Circle office at Shoranur is being constructed using steel structure based prefab technology; This office acted as an accredited agency for executing public works of other departments such as Artificial Turf in Football Stadium at Noorani, Palakkad (completed), Sports Complex at Panampalli Nagar, Ernakulam (in progress), hostel and class room using dismantled prefab housing units of National Games.; Structural works for Auditorium and Conference Hall which can accommodate 45 persons at 9<sup>th</sup> Floor of Vidyuthi Bhavanam were completed; Amenity Centre at 7<sup>th</sup> floor of Vidyuthi Bhavanam is completed; 2 nos of old passenger lifts were replaced with new ones.

#### **4.15 INTERNAL AUDIT**

Pay fixation section has done field Audits were done in 15 ARUs. 10367 service books were examined. The monetary value of objections during the year was Rs 82.2 lakhs and the amount recovered from the employees including the previous arrear is Rs 70.81 lakhs;

General Provident fund section admitted 1480 employees to GPF and 1500 employees were allotted Employee codes. 714 GPF accounts having a total value of Rs 60.24 Cr were closed and 8256 NRA applications amounting to Rs 174.98Cr. were authorized for payment. Post audit of 1557 Temporary Advance applications was done. 62 Temporary Advances were converted into Non Refundable Advances. Credit Card statements for 2015-16 of 30188 subscribers of all Account Rendering Units were issued;

Establishment Audit section(EAS) carried out pre audit of 7339 bills and post audit of 8952 bills amounting to Rs 52.46 Cr and Rs 45.9 Cr. respectively and objected an amount of Rs 6.44 lakhs and a sum of Rs 5.92 lakhs was realized / rectified including the previous arrears. Conducted 5 field inspections during the first quarter of 2016-17 and the value of objections raised was Rs 3.73 lakhs and the amount realized was Rs 9.78 lakhs. 22 nos of House construction advances and 21 nos of Conveyance advances were closed and 869 NLCs were issued. Verified 11 Investigation sanction cases and issued clearance. Conducted special audit on Medical advances in 15 ARUs across the state on random basis and a comprehensive report was submitted to the Board

Arrear Clearance Cell (Task Force) wing collected and consolidated the quarterly arrear reports of HT/EHT/LT consumers; Conducted audit of 27 HTB sectors amounting to Rs 265.27Cr. Verified 1408 documents of value Rs 6021.24 Cr.

Audit Report Interface (ARI) section furnished replies to 7 Reports having 24 Recommendations of Committee on Public Undertakings and 2 Reports containing 3 Recommendations of Committee on Public Accounts; 8 Audit Committee Meetings at ARU level were conducted with the officials from A.G. Two Apex Committee Meetings were convened by the Chief Secretary to Government of Kerala and 3 Audit Monitoring Committee meetings were convened by the Additional Chief Secretary(Power Department) and the Additional Chief Secretary, Finance Department.

Pension Audit section verified 7,372 pension payment orders and an amount of Rs 9.34 lakhs was objected in this regard. An amount of Rs 33.24 lakhs was realized including recoveries related to past periods. 5851 service books were verified. 146 service books were pre-audited till March 2017. The Audit Circular was prepared and issued in connection with revision of pension to the PTC pensioners.

Resident Concurrent Audit(RCA) section pre-checked 1835 bills valued Rs 570.73Cr.and , recovery was effected to the tune of Rs 1.17Cr. The objections withdrawn / overruled by the payment authorities amounted to Rs 1.9 Cr. including that of prior periods. Conducted post audit of 3 civil ARUs and 2 special audits.

Regional Audit Offices furnished a total of 716 audit reports through 23 Regional Audit Offices, consisting 344 Section Audit Reports, 41 Expenditure Audit Reports and 331 Surprise /Joint / Site Inspection reports; Total audit assessment amounts to Rs 25.82 Cr.and the amount realized is Rs 18.58Cr including the amount pertaining to the previous reports.

WAD section carried out pre-audit of 2,810 bills amounting to Rs 15.07Cr.pertaining to the ARUs of corporate office and the pre audit objections were cleared in time; Conducted special audit on power purchase transactions of M/s PTC Simhapura, M/s Maithon Power Ltd.,M/s Jindal Power Ltd.,M/s NVVN Ltd.,M/s BSES Ltd.,M/s KPCL and PTC BALCO,WEG Agali and offered remarks on various issues related to power purchase transactions. An amount of Rs 28.03Cr.was objected by the power purchase audit team, out of which Rs 25.51Cr has since been realized. The Power Purchase Audit team-1 was awarded with '**good service entry**' by the KSEBL Ltd.in this regard. Special audits were conducted at Generation Division,Idamalayar and Transmission circle,Kozhikode. This section verified and certified Transmission cost data for the 1<sup>st</sup> and 2<sup>nd</sup> half of the reported year and distribution cost data for 2016-17.

#### 4.16 LEGAL WING

Law Section has taken part in 45 Lok Adalaths at various courts. 282 cases settled in Adalaths for an amount of Rs.3.27 Cr as additional compensation for tree-cutting in connection with the line construction against a claim of Rs. 24.56 Cr; Out of the 15707 cases present in various courts( 13448 from the previous periods), 3945 cases disposed during the year. Out of a total of 894 Appeal cases(714 from the previous periods) 197 were disposed. A total of 282 cases were in settled in Lok Adalaths held in different district courts for a total amount of 3.27Cr.

#### 4.17 PERSONNEL DEPARTMENT

Biometric Attendance Management System (BAMS) in Vidyuthi Bhavanam,Pattom was combined with the HRIS and attendance reports were being generated from the HRIS through an automated process from February 2017 onwards. Also, the project of 2<sup>nd</sup> stage of implementation of BAMS in the circle level offices is also under consideration; Board Order with respect to the online transfer and postings of workmen category has been issued on 31.3.2017. Complaints committee dealing with the sexual harassment against women employees in KSEBL has been reconstituted and B.O dated 21.12.2016 issued in this regard..Physically handicapped provisional employees engaged by employment exchange etc.have been regularized through the order of Directors; As part of implementation of Biometric Attendance Management System 221nos of Smart Cards and 145nos of Photo ID Cards were issued during the year.

Details of compensation claims disbursed/sanctioned for accidents are given below.

Description	Amount disbursed / sanctioned(Rs.)
Fatal and non-fatal accidents to petty contractors	74,57,477
Fatal and non-fatal accidents to employees	73,12,434
Reimbursement of medical claims to the accident victims	1,05,34,762

Claims to electrical accidents to Public	1,04,98,000
Claims to electrocution to cattle	8,00,000

Details of Employees Welfare Fund disbursed are shown below.

Description	No. of employees	Amount disbursed(Rs).
<b>Retirement benefit</b>	583	1,74,84,018
Legal heirs of deceased employees	97	4,35,24,516
Retired on invalid grounds	Nil	Nil
Voluntary retirement benefit	2	69,461
Resignation benefit	10	66,150
Dismissed from service	4	37,076
Educational cash awards to class X students	627	21,95,127
Educational cash awards to class XII Students	184	9,20,184

#### **4.18 PUBLIC RELATIONS WING**

Arranged telecasting on a weekly half an hour television programme (Spandanam) on Dooradarshan on Saturdays and Sundays; Documentary films highlighting the consumer friendly activities and achievements of KSEBL are being produced by this department and screened on various occasions; Publishes "SPANDANAM" the news letter; 16 exhibitions were organized on festival sites such as Attukal Pongala, Thrissur Pooram, St.Mary's Technical Fest, Aluva Sivarathri, Sivagiri Fest, CET Technical Fest etc.; Took active participation in exhibitions conducted by various Engineering Colleges which helps to convey the messages of energy conservation; Publicity on Electrical safety and Energy Conservation through advertisements in Magazines and Souvenirs of various exhibitions and sponsorship of seminars and other functions; The major Demand Side Management Campaign for the year 2016-17 namely, 'Labhaprabha' was launched which was a huge success in term of public participation. As a part of such campaigns, the PR wing engaged in publication of booklets, brochures, animation videos, docu-fiction etc. on topics of energy conservation, electrical safety etc.; A booklet showing Assembly-wise details of work to be undertaken as the part of Total Electrification programme was published and distributed to the concerned MLAs.; Published 'E-Letter' as an electronic form of communication depicting major activities and developments in KSEBL for circulation among officers of KSEBL through E mail; The state wide activities relating to 'Malayalam as official language' was coordinated.

#### **4.19 SPECIAL OFFICER (REVENUE)**

During the year, an arrear amount of Rs 3,81,30,209/-(Principal-Rs 2,06,23,071/- and Interest-Rs 1,75,07,138/-) had been collected through One Time Settlement Scheme; Demand made on

HT/EHT consumers and Licensees totaling to 5356 numbers (EHT consumers- 53 Nos., HT consumers- 5,254 Nos.& Licensees (consumers)- 49 ) were Rs. 3507.03 Cr and the of which amount collected was Rs. 3162.95 Cr. ———

#### **4.20. SUPPLY CHAIN MANAGEMENT**

The total estimated amount for centralized distribution materials for 2016-17 came to Rs 579.95Cr.and that of decentralized distribution materials came to Rs 70.54Cr., that for transmission materials was Rs 188.79Cr.; The Purchase plan for 2017-18 for the procurement of distribution materials as approved by the Board of Directors was Rs 883Cr.,and for transmission materials for the year 2017-18 was for Rs 102.84Cr.;Store Verification Unit did their job on Sub regional stores (25Nos), Manufacturing facilities (3Nos), TMR Division stores (5Nos.), Transmission Division store (1 No), Generation circle stores (4 Nos),L.D circle stores(1No.) and Stationary store(1No.); Request for vendor registration was invited for 24 categories of various distribution materials and 20 categories of various transmission materials on 16.2.2017.A total of 74 firms were registered as vendors for 79 items; Realised an amount of Rs.26.89 Cr. through scrap disposal excluding e-auction; Prepared Cost data for Transmission materials as on 30.9.16 and published in the website; Prepared Standard rate of fast moving materials under distribution for 2015-16 and forwarded to the O/o the Chief Engineer(Commercial&Tariff); Conducted 81Nos. of e-auction for the disposal of selected scrap items through the web portal of M/s. MSTC Ltd, Bangalore and realised Rs. 21.49 Cr.; Purchase order issued for a total amount of Rs 503.176 Cr. (Distribution Materials – Rs.303.1 Cr Transmission materials- Rs. 120.29 Cr, PSC poles- Rs.29.016 Cr, Computer and printer - Rs.0.01 Cr MS Rod, MS Flat, MS Angle, MS Channel, GI Pipe - Rs.50.7Cr )

#### **4.21 VIGILANCE & APTS**

During the reporting period 993 numbers of Petitions were received for vigilance enquiry and enquiries were ordered in all the cases. In 714 numbers of cases Enquiries were completed and report submitted. During the period 7,089 numbers of references were handled. Complaints rectified which were received over phones counts to 267 numbers. Disciplinary proceedings/pending vigilance cases processed relating to incumbents add up to 1,019 numbers.

#### **4.22 LAND MANAGEMENT UNIT (LMU)**

An Extent of 19.3243Hectares (47.731Acres) of land in prime locations were got mutated in favour of KSEBL (15.62Hectares in 2014-15 and 26.8Hectares in 2015-16); Copies of 409 Awards relating to various landed properties of KSEBL were traced out from different sources and uploaded in the database; Formulated Land Management Policy for KSEBL and circulated to all Officers above the rank of Executive Engineers for compliance; Various land related issues were settled by giving legal advice

#### **4.23 RESIDENT ENGINEER**

The year 2016-17 was very important for KSEBL, considering the amount of funds obtained from various Central Government programmes & projects like DDUGJY,PSDF,IPDS etc. MNRE funds for SHEPs were disbursed for Kerala on a regular basis. Resident Engineer attended various meetings representing KSEBL in various agencies like MOP,MNRE,REC,PFC,PGCIL,NRLDC,NTPC,NLDC,SECI etc.Various LTA's and MTOA's have

been signed by Resident Engineer on behalf of KSEBL with PGCIL .Resident Engineer witnessed almost 28nos material inspections at various locations.Active followup and coordination were done for the proper conduct of the cases in various foras like SC,NCDRC,CERC,APTEL etc. This office represented KSEBL before BIFR and AAIFR on various matters.

#### **4.24 CHIEF ENGINEER, GENERATION , MOOLAMATTOM**

4.24.1. In Poringalkuthu, Renovation work of Penstock of Unit#3 in progress.61.97% of penstock works completed; At Idukki, Renovation work of Unit#1 in progress. Various works items viz, MIV tender Approval, Rewiring of powerhouse, R&M of EOT travelling cranes tendering, and Procurement of Forklift are in different levels of progress; At Kuttiyadi, RLA study of the penstock has been completed; In Sholayar generating station, Drawing approval for the equipment design for the Renovation is in progress. In the matter of Renovation of penstock Price bid opened and Letter of Acceptance issued to the lowest bidder; In Panniyar Power house replacement work of 2nos butterfly valves for an amount of Rs.1.5 Cr were commenced and completed in the first quarter of 17-18. April 17 to May 17.

Generation from Hydel Power Stations in the reporting period was 4324.076 MU. Thermal power stations produced only 43.545MU. Contribution from the wind generating stations was 1.714 MU. Total generation from the generation SBU from the three sources said above is 4369.355MU.

#### **4.24.2 ISO certification to Power Houses**

- (a) PLBE-The powerhouse was certified ISO-9001-2008 in October 2016
- (b) Neriamangalam Powerhouse was certified ISO 9001-2008 in August 2016.
- (c) Idukki Powerhouse was certified ISO 9001-2016 in January 2017.

#### **4.24.3. Safety awards**

KDPP was awarded certificate for outstanding performance in Industrial safety by National Safety Council,Kerala Chapter for Medium Size Engineering Industry; Sabarigiri HEP was given the Safety Award 2016 under Small Factory-Category 2, Dept.of Factories and Boilers by Government of Kerala.

#### **4.24.4.New projects commissioned in 2016-17**

Name of projects	District	Type	Installed capacity (MW)	Year of commissioning
Vellathooval SHEP	Idukki	SHEP	2X1.8 MW	2016 (Sept)

#### **4.25 SECRETARY (ADMINISTRATION)**

4.25.1. Establishment Section under the secretary administration is responsible for effecting appointments, processing for orders for transfer & postings of officers to all cadres of and above the rank of Executive Engineers (both Electrical & Civil) on the technical side and of and above the rank of Accounts Officer/ Finance Officer on the Ministerial side. Orders sanctioning Special Disability Leave to the officers of and above the rank of Executive Engineer/ Accounts Officer/ Finance Officer is done through this office. Through this office the Secretary acts as disciplinary authority of the officers of and above the rank of Executive Engineer/ Accounts Officer/ Finance Officer. Correspondence with Public Service Commission, adoption of Government orders and Circulars, sanctioning Medical advance to

all categories of employees and clarification thereof, settlement of claims in Man missing cases, Issuing Non Liability certificate to all officers in KSEBL of and above the rank of Executive Engineer/ Accounts Officer/ Finance Officer, forfeiture and reduction of pension, according sanction for disbursing arrears of pension, investigation sanction of delayed claims, unauthorized absence, regularization of break of service, Issuing No Objection Certificate for study purposes are among the important processes carried out through this office.

Issuance of final orders in the matters of granting permission to visit abroad for joining spouse, or for performing Haj, sanctioning of family pension to special categories like parents, disabled children, unmarried daughter above 25 years etc sanctioning Leave Without Allowance for employment abroad, study purpose, etc. matters relating to DPC, abolition, creation, shifting & up gradation of posts in all categories & restructuring of offices, invalid pension & matters relating to voluntary retirement of officers of and above the cadre of Executive Engineer/ Accounts Officer/ Finance Officer are also done through the establishment section under the Secretary.

4.25.2. ACA Section deals with the payment of bills with respect to the offices namely, the Chairman and Managing Director and Board Directors, Chief Vigilance Officer, Chief Public Relations Officer, Secretary (Administration), Chief Engineer (Commercial & Tariff) Legal Adviser & Disciplinary Enquiry Officer, Regional Personnel, Officer Vehicle Monitoring Cell. The imprest account of the Resident Engineer (New Delhi) is also recouped from this section. This section also compiles and monitors the accounts of the office of the Board Secretariat. RAPDRP payments to the Power Finance Corporation are made from ACA section.

4.25.3. Vehicles Monitoring Cell's role is to the vehicle pool under its control. The VMC office is staffed by Assistant Engineer (Civil) 1 Number, Sub Engineer (Civil)- 2 Numbers, Senior Assistant 1 Number, Junior Assistant 1 Number (Active sports person). Other than the five staff members said of the resources available with the VMC are , 18 numbers of department drivers, 11 numbers of drivers on contract basis and a fleet of 29 numbers of department vehicles and 11 numbers of contract vehicles.

4.25.4. The Liaison Office, Kerala State Electricity Board Limited, New Delhi is managed by the Resident Engineer. This office liaisons with Government of India and about 15 other institutions and acts as the communication portal among Government of Kerala, Kerala State Electricity Board Limited and Government of India. Domestic gas allocation, projects connected with ANERT, expansion of Kayamkulam Thermal Project, interstate water sharing, collecting data on the progress of interstate transmission line so as to ensure power availability, forest clearances for various projects, maintenance work on Mullapperiyar Dam and Cheemeni project were among the important matters that the liaison office had to engage itself in the financial year.

## 5. SCHEMES FUNDED BY CENTRAL/ STATE / OTHER AGENCIES

### 5.1 RAJIV GANDHI GRAMEEN VYDYUDHIKARAN YOJANA (RGGVY)

RGGVY scheme was launched by Government of India in 2005 for providing access of electricity to all rural households.

The objective of the scheme is:

- Electrify all villages and habitations.
- Provide access to electricity to all rural households.
- Provide electricity connection to Below Poverty Line (BPL) families free of charge.

The financial part of the scheme is such that 100% grant for electrification of BPL households from Govt.of India,90% capital subsidy of the project cost for developing infrastructure from Govt.of India,10% loan from M/s Rural Electrification Corporation.

The project includes two packages:

- **Village Electrification Infrastructure (VEI) package:**  
For providing infrastructure for electrification of all households and service connection to all the BPL households. The work consists of construction of 11 kV lines, LT 3 phase & single phase lines, installation of 25 kVA Transformers and effecting BPL service connetions.
- **Rural Electricity Distribution Backbone (REDB) package:**  
For construction of HT substations in the Block. This consists of enhancement of existing substations and construction of new 33/66 kV substations.

Schemes implemented under RGGVY in Kerala:

❖ Xth plan Scheme

Scheme	Sanctioned Project Cost in Rs. Lakh	Date of Sanction	Amount received from REC in Rs. Lakh	Final project cost as per closure proposal in Rs. Lakh	Date of completion	BPL service Connection		APL service connection effected
						Target	Effectuated	
Idukki	1995.22	05.8.05	1818.69	2041.1283	30.6.2010	16097	17238	641

Details of achievements of XI Plan RGGVY works (I & II phase) as on 31.03.2017 is tabulated below.

Sl. No	District	Sanctioned project cost (Rs. lakh)	Amount received from REC (Rs lakh)	Expenditure (Rs. lakh)	Date of completion
1	Thiruvananthapuram	2182.13	2004.75	2920.78	30.11.2015
2	Kollam	328.05	304.868	479	31.3.2015
3	Pathanamthitta	575.65	516.521	646.6	31.3.2015
4	Alappuzha	1366.81	1216.44	1425.32	31.3.2015
5	Kottayam	796.51	697.87	926.74	30.11.2015
6	Ernakulam	2471.24	2150.17	2150.17	30.11.2015
7	Thrissur	1262.7	1089.815	1452.08	30.09.2015
8	Kasargode	1460.71	1371.816	1445.61	31.12.2014
9	Kannur	1971.4	1878.501	2285.51	31.12.2014
10	Kozhikode	1692.93	1360.37	1675.27	31.12.2014
11	Wayanad	1433.44	1354.31	1571.89	31.12.2014
12	Palakkad	1635.4	1384.31	1716.95	31.12.2014
13	Malappuram	3263.46	2864.99	3147.1	31.3.2015

Physical achievement of schemes

Description	Quantity
Installation of 25 KVA Transformer	1831 nos
Construction of 11KV Line (Km)	1841
Construction of LT 3 phase Line (Km)	668.128
Construction of LT Single phase Line (Km)	3162.664
Enhancement of existing S/s	5
New 66/11 KV S/s	1

## 5.2 DEEN DAYAL UPADHYA GRAM JYOYHI YOJANA (DDUGJY)

Deendayal Upadhyaya Gram Jyothi Yojana (DDUGJY) launched by Govt. of India in August 2015 has with the broad objective. The project is for rural area only.

The objective of the scheme is:

- AT&C Loss reduction,
- providing electricity to all rural households and
- 24X7 power.

Funding pattern

- 60% grant from Gol,
- 10% KSEB contribution,
- 30% loan.

M/s. Rural Electrification Corporation (REC) is the Nodal agency of the project. It is mandatory to appoint a Project Management Agency (PMA) for which 100% grant will be provided by Gol subject to a maximum of 0.5 % of the project cost.



Government of India sanctioned a total amount of Rs 485.37 Cr. for implementing DDUGJY in Kerala on 5.1.2016 as detailed below. Work include 33KV substations, 33KV lines, 11KV lines, distribution transformers, HT and LT lines, replacement of energy meters, BPL service connections etc.

Sl. No	Name of District	* Sansad Adarsh Gram Yojna (Cr)	** Metering (Cr)	Connecting Unconnected Hhs(Cr)	System Strengthening (Cr)	Total sanctioned Cost (In Cr.)
1	Alappuzha	5.33	13.85	9.26	5.13	33.57
2	Ernakulam	3.23	11.66	8.37	10.5	33.76
3	Idukki	0.14	7.62	19.19	12.36	39.31
4	Kannur	2.67	14.06	16.21	3.46	36.4
5	Kasaragod	1.79	3.58	8.3	1.06	14.73
6	Kollam	3.64	15.80	9.58	8.58	37.60
7	Kottayam	4.03	11.43	11.54	11.64	38.64
8	Kozhikode	10.40	13.94	17.43	1.89	43.66
9	Malappuram	2.71	7.55	20.54	5.55	36.35
10	Palakkad	2.76	12.99	13.03	3.49	32.27
11	Pathanamthitta	5.03	3.61	11.10	6.02	25.76
12	Thiruvananthapuram	15.75	15.10	16.53	6.15	53.53
13	Thrissur	0.41	20.96	6.55	4.84	32.76
14	Wayanad	1.25	7.01	13.96	2.40	24.62
	<b>Total</b>	<b>59.14</b>	<b>159.16</b>	<b>181.59</b>	<b>83.07</b>	<b>482.96</b>

\*Works exclusively for the Panchayats selected by the representative member of Parliament under Saansad Adarsh Gram Yojana (SAGY).

\*\* Replacement of faulty and electro-mechanical meters with static meters to reduce AT & C loss

### 5.3 R- APDRP(Part B)

- Sanctioned by Government of India in 2010
- Focuses on actual demonstrable performance in terms of sustained loss reduction.
- In Kerala, 43 schemes were sanctioned under RAPDRP Part B with an outlay of Rs. 1078.3 Crore.

#### Funding pattern

- 25% of the sanctioned amount will be given by MoP as loan
- Balance 75% of the outlay is to be raised by the utility as loan or own fund
- Upto 50% of the scheme cost will be converted to grant on successful completion of the scheme and reducing the AT&C loss to 15% or below and sustaining it for a period of 5 years
- KSEB has availed counterpart loan from M/s REC Ltd.

#### Works included

- Drawing 11 KV OH lines, laying 11 KV UG Cable,
- Reconductoring of 11 KV lines,
- Installing new distribution transformers,
- Capacity enhancement of distribution transformers,

- Drawing LT lines,
- Reconductoring/conversion of LT lines,
- Installing Streetlight meters with controllers,
- Replacing faulty/mechanical meters with electrostatic meters,
- Drawing LT/HT Aerial Bundled Cables,
- Installing Ring Main Units

The following works completed under R-APDRP Part-B amounting to Rs. 456 Cr against target amount of 1078.3Cr.

Description	Quantity
33KV substations	5 nos
33KV OH line	19Km
33KV UG cable	9Km
Construction of HT OH line	1629 km
Laying of HT UG Cable	1141km
Reconductoring of HT OH line	629 km
HT ABC	89Km
Installation of distribution transformers	2846Nos.
Construction of LT line	270 km
Reconductoring/conversion of LT line	8312 km
LT ABC	411Km
Replacing faulty/mechanical meters with electrostatic meters.	1333788 Nos.
Street lights meters installed	38811 Nos

#### 5.4 INTEGRATED POWER DEVELOPMENT SCHEME (IPDS) (for Urban & semi urban Areas)

Ministry of Power (MoP) launched the IPDS in September 2015. It provides financial assistance against capital expenditure to address the gaps in sub-transmission and distribution networks, installation of Solar panels with net metering & metering including smart meters in urban and semi-urban areas, to supplement the available resources of Discoms. The earlier scheme RAPDRP has been subsumed in the new scheme. PFC is the Nodal Agency.

Funding pattern:

- 60% of the project cost - Grant
- 10% - Own fund
- 30% - Loan / Own fund
- 15% - Addl. Grant (on achievement of milestones)

An amount of Rs. 592.07 Crore have been sanctioned by the MoP for IPDS Kerala on 15.6.2016, for 63 towns under 25 Circles. The earlier RAPDRP scheme has been subsumed in the new scheme.

DPR for the works have been sanctioned and Solar turnkey projects already started. Material procurement for the works is in progress.

## 5.5 LOCAL AREA DEVELOPMENT (LAD) WORKS

The physical and financial status of work carried out through MLA LAD fund is given below.

Region	Total no. of work	Completed work	Balance work	Amount remitted (Rs. lakh)	Amount for which work was completed (Rs. lakh)	Balance Amount (Rs. lakh)
South	46	45	1	73.306	72.84	0.4665
Central	27	21	6	352.185043	349.07018	3.114863
North	31	30	1	46.79	44.79	2
North Malabar	3	3	0	29.25	29.25	0
<b>Total</b>	<b>107</b>	<b>99</b>	<b>8</b>	<b>501.53</b>	<b>495.95</b>	<b>5.58</b>

The physical and financial progress of works carried out using MP LAD fund is given below.

Region	Total no. of works	Completed works	Balance work	Amount remitted (Rs. lakh)	Amount for which work was completed (Rs. lakh)	Balance Amount (Rs. lakh)
South	3	3	0	16.29756	16.29756	0
Central	9	4	5	25.04301	2.2035	22.83951
North	1	1	0	1.276	1.276	0
North Malabar	Nil	Nil	Nil	Nil	Nil	Nil
<b>Total</b>	<b>13</b>	<b>8</b>	<b>5</b>	<b>42.616</b>	<b>19.77</b>	<b>22.839</b>

## 5.6 KERALA DEVELOPMENT SCHEME

Kerala Development Scheme works are distribution activities taken up by local bodies with their funds through KSEBL. The progress of work is given below.

Region	Total no. of works	Completed works	Balance work	Amount remitted (Rs. lakh)	Amount for which work was completed (Rs. lakh)	Balance amount (Rs. lakh)
South	663	359	304	1615.57199	616.46993	999.10206
Central	658	484	174	1483.009	768.1485	714.860
North	162	76	86	342.90	29.66	313.23
North Malabar	146	68	78	590.96	268.524	322.441
<b>Total</b>	<b>1629</b>	<b>987</b>	<b>642</b>	<b>4032.44</b>	<b>1682.80</b>	<b>2349.632</b>

## 6. FINANCES & ACCOUNTS

### 6.1 REVENUE RECEIPTS & EXPENDITURE(PROVISIONAL)

Total income for the year 2016-17 was Rs.11586.87 Cr. and the expenditure was Rs.13227.32 Cr. Statement of profit and loss for the year ended 31<sup>st</sup> March 2017 closed the account with Rs. 1652.45 Cr. as loss. The details are shown below.

Rs. lakh

	Particulars	As at 31.03.2017	As at 31.03.2016
I	Revenue from operations	11,21,911.94	1,091,443.61
II	Other income	36,775.39	33,271.34
III	<b>Total revenue (I+II)</b>	<b>11,58,687.33</b>	<b>1,124,714.95</b>
IV	<b>Expenses</b>		
	Purchase of power	7,66,440.39	633,681.62
	Generation of power	2,344.63	10,425.53
	Repairs and maintenance	26,690.1	25,975.64
	Employee cost	3,37,375.67	310,453.25
	Administration & General expenses	37,872.09	32,787.47
	Finance Cost	92,292.75	85,140.75
	Depreciation and Amortization expenses	52,066.22	49,122.12
	Others	7,650.24	8,898.01
	<b>Total Expenses</b>	<b>13,22,732.08</b>	<b>1,156,484.39</b>
V	Add/(less): Prior period credits/(charges)	(1,200.55)	440.09
VI	<b>Profit/(loss) before exceptional and extra ordinary items and tax (III-IV+V)</b>	<b>(1,65,245.3)</b>	<b>(31,329.35)</b>
VII	Exceptional items	-	-
VIII	<b>Profit/(loss) before extra ordinary items and tax (VI-VII)</b>	<b>(1,65,245.3)</b>	<b>(31,329.35)</b>
IX	<b>Extraordinary items</b>	-	-
X	<b>Profit/(loss) before tax (VIII-IX)</b>	<b>(1,65,245.3)</b>	<b>(31,329.35)</b>
XI	<b>Tax expenses</b>		
	Current tax	-	-
	Deferred tax	-	-
XII	<b>Profit/(loss) for the period from continuing operations (VIII-IX)</b>	<b>(1,65,245.3)</b>	<b>(31,329.35)</b>
XIII	Profit/(loss) from discontinuing operations	-	-
XIV	Tax expenses of discontinuing operations	-	-
XV	<b>Profit/(loss) from discontinuing operations after tax (XIII-XIV)</b>	-	-
XVI	<b>Profit/(loss) for the period (XII+XV)</b>	<b>(1,65,245.3)</b>	<b>(31,329.35)</b>
XVII	Earnings per equity share		
	(i) Basic	(4.72)	(0.90)
	(ii) Diluted	(4.72)	(0.90)

Balance Sheet as on 31<sup>st</sup> March 2017 (Provisional) is shown below.

Sl. No.	Liabilities	Rs. in lakhs	Sl. No.	Assets	Rs. in lakhs
1	a. Share Capital	3,49,905.00	1	<b>Non-Current assets</b>	
	b. Reserves and surplus	(3,26,617.49)		a. Fixed Assets	2320965.03
2	<b>Contribution, grants and other long term reserve funds</b>	1,43,298.21		b. Noncurrent investment	2000.01
3	<b>Non Current Liabilities</b>			c. Long term loans and advances	8,585.46
	a. Long term borrowings	6,42,441.97		d. Other noncurrent assets	5,35,530.28
	b. Other long term liabilities	3,11,596.98	2	<b>Current assets</b>	
	c. Long term provisions	16,56,020.44		a. Current investments	-
4	<b>Current liabilities</b>			b. Inventories	30,998.61
	a. Short term borrowings	66,616.11		c. Trade receivables	1,92,339.65
	c. Trade payables	91,963.53		d. Cash and cash equivalents	30,431.21
	e. Other short term liabilities	1,93,700.48		e. Short term loan and advances	3,291.22
	f. Short term provisions	-		f. Other current assets	4,783.76
	<b>TOTAL</b>	<b>31,28,925.22</b>		<b>TOTAL</b>	<b>31,28,925.22</b>

## 6.2 BORROWINGS & LOAN

Company borrowed Rs.5909.19 Cr. during 2016-17 from various financial institutions as against Rs.2570.55 Cr. during 2015-16. Company had an outstanding long term loan of Rs. 6424.42Cr. including payments due on capital liabilities at the end of March 2017. The outstanding loan as on March 2016 was Rs.3753.51 Cr.

## 6.3 BORROWINGS AND LIABILITIES

As may be seen given below, there has been an increase in the loan outstanding and the interest expenditure during the year 2016-17.

Rs. crore

Year	Loan outstanding	Loan received	Repayment	Closing balance	Increase over previous year	Interest due for payment	Increase in interest over previous year
2013-14	2134.20	3336.86	2513.57	2957.49	823.3	127.28	34.93
2014-15	2957.49	3510.91	2769.04	3699.36	741.86	360.62	233.34
2015-16	3699.35	2570.55	2516.39	3753.51	54.15	403.33	42.71
2016-17	3753.51	3272.8	601.89	6424.42	2670.91	402.03	1.3

#### 6.4 REVENUE FROM SALE OF POWER

Revenue earned from sale of power and other income is given below.

SI No	Particulars	2016-17	2015-16
1	Energy sold (MU)		
	To the consumers within the State	20055.66	19353.67
	Outside the state	49.30	53.48
	Total sale	20104.96	19407.15
2	Revenue(Cr.)		
	From Tariff	11219.12	10914.44
	Non tariff	367.75	332.71
	Total (Rs. Cr.)	11586.87	11247.15

#### 6.5 BUDGET PROVISIONS / EXPENDITURE OF THE ORGANISATION

Budget estimate and revised estimate for capital works and the expenditure made is given below.

Sector	Budget Estimate (Rs. Cr)	Revised Estimate (Rs. Cr)	Expenditure (Rs. Cr)
Generation	390	291.5	341.93
Transmission	260	310	374.81
Distribution	705	725	810.09
Other works	25	18.5	12.33
<b>Total</b>	<b>1380</b>	<b>1345</b>	<b>1539.2</b>

## 7. EVENTS

### 7.1 IMPORTANT CAMPAIGNS BROUGHT OUT BY THE ORGANIZATION

- A booklet showing Assembly wise details of work to be undertaken as the part of Total Electrification programme was published and distributed to the concerned MLAs.
- Documentary films highlighting the consumer friendly activities and achievements of KSEBL are produced and exhibited on various occasions.
- The Labhaprabha Campaign 2017 is an instant which received statewide attention. Solar Lanterns were distributed among the winners of labhaprabha 2016-17. As a part of such campaigns, the PR wing engages in publication of booklets, brochures, animation videos, docu-fiction etc. in connection with energy conservation, electrical safety etc.
- Brought out publication "Spandanam", a newsletter about various activities of KSEBL for circulation among all offices.
- Published "E-Letter" as an electronic form of communication depicting major activities and developments in KSEBL for circulation among officers of KSEBL through E mail.

### 7.2 PARTICIPATION IN FAIRS, EXHIBITIONS

- Participated in exhibitions conducted by various Engineering colleges to convey the messages of effective and judicious use of energy and the necessity of Energy conservation.
- Organised 16 exhibitions in connection with Attukal Pongala, Thrissur Pooram, St. Mary's technical fest, Aluva Sivarathri, Sivagiri fest, CET technical fest etc.
- Kera Kaumudi, the leading Malayalam daily conducted December Fest, a culture consumer expo that added to the festive spirit with fabulous shopping and entertainment from 17<sup>th</sup> December 2016 to January 3<sup>rd</sup>, 2017 at Kanakakkunnu. KSEBL participated in the fest
- Loyola School, Trivandrum conducted an Inter School Fest 2016 "NATARAJA". KSEBL was a sponsor by displaying an advertisement regarding electrical safety and promotion of sustainable consumption of electricity.

## 8. HIGHLIGHTS OF KERALA POWER SYSTEM

Total Installed capacity	2704.065 MW
Storage as on 01-04-2016	1628.91 MU
Inflow during 2016-17	3513.22 MU
Storage as on 31-3-2017	1247.26 MU
The total generation	4369.54 MU
Auxiliary consumption	44.46 MU
Purchase through Traders	7316.23MU at Kerala Periphery
Purchase through Power exchange	601.93 MU at Kerala Periphery
Swap Return	6.68 MU at Kerala Periphery
Sale through Power exchange (at SR )	49.3 MU at Kerala Periphery
CGS share	10205.8 MU at Kerala Periphery
UI import/Deviation(+)	769.67 MU @ average rate of Rs. 1.79/-
UI export /Deviation(-)	28.97MU @ average rate of Rs.1.7/-
Total Power purchase	19050.17 MU at Kerala Periphery
Total Generation and power purchase excluding PGCIL loss and Auxiliary consumption	23375.25 MU
External PGCIL loss	684.76 MU
Energy sale inside the state by KSEB	20038.25 MU
Energy consumption within state including open access consumers	20452.91 MU
Open access purchase at Kerala periphery/consumer end	435.6 MU/414.66 MU
Energy injection at generator end/KSEB periphery for sale through open access outside the state	45.08 MU /43.06 MU
T&D loss in KSEBL system (including the loss on account of energy purchased/sale through open access)	3310.67 MU 13.93 (%)
Maximum peak demand recoded	4004 MW (27.4.2016,22:00-22:30 hrs)
Unrestricted peak demand	4079 MW (27.04.2016,22:00 -22:30 hrs)
Maximum daily consumption recorded	80.44 MU (29-4-2016)
Length of EHT lines( As on 31.3.2017)	9407.18 KM
Length of HT lines(11/22/33KV)(As on 31.3.17)	61319.66 KM
Length of LT lines( As on 31.3.2017)	291326 KM
No.of EHT substations( As on 31.3.2017)	251 Nos.
No.of Distribution transformers(As on 31.3.17)	75730 Nos.
Total consumers	11994816 Nos.



## 9. MISCELLANEOUS MATTERS

### 9.1 GRIEVANCE REDRESSAL MECHANISM IN THE ORGANISATION

Details of complaints received, settled and pending for disposal are given below.

	South	Central	North	Total
Complaints received	329	197	257	783
Complaints settled	257	173	212	642
Complaints to be settled	72	24	45	141

### 9.2 DEPARTMENTAL PUBLICATIONS

1. System Operation
2. Power System Statistics
3. Spandanam
4. ARR & ERC
5. Annual Accounts
6. Budget Estimate
7. Annual Plan
8. Annual Administration Report
9. Oorjam

## 10. PHONE NUMBERS & E-mail address of IMPORTANT OFFICES

### 10.1 DIRECTORS OF KSEBL

Sl. No	Designation	e- mail	Phone
1	Chairman & Managing Director	<a href="mailto:cmdkseb@kseb.in">cmdkseb@kseb.in</a>	9446008002
2	Director (Finance)	<a href="mailto:dfkseb@kseb.in">dfkseb@kseb.in</a>	9446008003/9446008603(o)
3	Director (Distribution, Safety & Generation Electrical)	<a href="mailto:ddkseb@kseb.in">ddkseb@kseb.in</a>	9446008004
4	Director (Trans. & System Operations)	<a href="mailto:dtkseb@kseb.in">dtkseb@kseb.in</a>	9446008444/9446008884(o)
5	Director (Generation Civil & HRM)	<a href="mailto:tamg@ksebnet.com">tamg@ksebnet.com</a>	9446008005
6	Director (Corporate planning & SCM)	<a href="mailto:dscmcp@kseb.in">dscmcp@kseb.in</a>	9446008009

### 10.2 CHIEF ENGINEERS & OTHER HoDs

Sl. No	Designation	e- mail	Phone
1	CE (Generation)	<a href="mailto:cegenkseb@gmail.com">cegenkseb@gmail.com</a>	9446008203/ 9496009370 (o)
2	CE(HRM)	<a href="mailto:cehrm@kseb.in">cehrm@kseb.in</a>	9446008008
3	CE(IT&CR)	<a href="mailto:ceit@kseb.in">ceit@kseb.in</a>	9496011747
4	CE (Commercial & Tariff)	<a href="mailto:cect@kseb.in">cect@kseb.in</a>	9446008137 / 9446008819 (o)
5	CE(PED)	<a href="mailto:ceped@kseb.in">ceped@kseb.in</a>	9446008207 / 0471 2555030
6	CE(Civil Construction-South)	<a href="mailto:ceccs@ksebnet.com">ceccs@ksebnet.com</a>	9446008013 / 9496011907 (o)
7	CE(Civil Construction-North)	<a href="mailto:cecn-kzd@ksebnet.com">cecn-kzd@ksebnet.com</a> / <a href="mailto:ceccnorth@gmail.com">ceccnorth@gmail.com</a>	9446008206 / 9496011534 (o)
8	CE(I&P)	<a href="mailto:cecip@ksebnet.com">cecip@ksebnet.com</a>	9496011730 / 9446008969 (o)
9	CE(Dam Safety)	<a href="mailto:cedamsafety@kseb.in">cedamsafety@kseb.in</a>	9496018719
10	CE(SCM)	<a href="mailto:cescmkseb@ksebnet.com">cescmkseb@ksebnet.com</a>	9496018448/04712514525(o)
11	CE(Transmission South)	<a href="mailto:cets@kseb.in">cets@kseb.in</a>	9446008010 / 0471 2514598
12	CE(Transmission North)	<a href="mailto:cetn@kseb.in">cetn@kseb.in</a>	9446008205 / 9496010972 (o)
13	CE(System Operation)	<a href="mailto:cesoklsy@gmail.com">cesoklsy@gmail.com</a>	9446008202 / 9496011900 (o)
14	CE, Distribution(South)	<a href="mailto:ceds@kseb.in">ceds@kseb.in</a>	9446008011 / 9446008039 (o)
15	CE, Distribution(Central)	<a href="mailto:cedc@kseb.in">cedc@kseb.in</a>	9446008201 / 9496008717 (o)
16	CE, Distribution(North)	<a href="mailto:cedn@kseb.in">cedn@kseb.in</a>	9446008204 / 9496010689 (o)
17	CE, Distribution(North Malabar)	<a href="mailto:cedkkseb@gmail.com">cedkkseb@gmail.com</a>	0497 2707202(o)
18	Chief Vigilance Officer	<a href="mailto:cvo@kseb.in">cvo@kseb.in</a>	9496018700/0471 2444554(o)
19	Dy.CE (APTS)	<a href="mailto:dceapts@ksebnet.com">dceapts@ksebnet.com</a>	9446008016
20	CE(RE&ES)	<a href="mailto:cerees@kseb.in">cerees@kseb.in</a>	9446008007/9446008607(o)
21	LA & DEO	<a href="mailto:ladeo@kseb.in">ladeo@kseb.in</a>	9446008015 /0471 2448834(o)
22	Chief Internal Auditor	<a href="mailto:cia@ksebnet.com">cia@ksebnet.com</a>	9446008208 / 9496011837 (o)
23	Chief Public Relations Officer	<a href="mailto:dpr@kseb.in">dpr@kseb.in</a>	9446008179
24	Chief Personnel officer	<a href="mailto:pokseb@gmail.com">pokseb@gmail.com</a>	9496018669
25	Financial Advisor	<a href="mailto:fa@kseb.in">fa@kseb.in</a>	9446008014 / 9496008814 (o)
26	Secretary (Administration)	<a href="mailto:secretary@ksebnet.com">secretary@ksebnet.com</a>	9446008012 / 0471 2447472(o)
27	Assistant Company Secretary	<a href="mailto:cs@kseb.in">cs@kseb.in</a>	9446009219/04712514491(o)

**Annexure**

**ORGANISATION CHART AS ON 31.03.2017**

